An exploration into autistic spectrum disorder, personality, parenting and adult attachment.

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List of Abbreviations

AD	Autistic Disorder
ADI-R	Autism Diagnostic Interview – Revised
APA	American Psychiatric Association
AQ	Autism Spectrum Quotient
ASD	Autistic Spectrum Disorder
ASDI	Asperger Syndrome Diagnostic Interview
ASPD	Antisocial Personality Disorder
AS	Asperger's Syndrome
BFI	The Big Five Inventory
BPD	Borderline Personality Disorder
DSM	Diagnostic and Statistical Manual of Mental Disorders
ECR-R	Experiences in Close Relationships – Revised
FSIQ	Full Scale Intelligence Quotient
ICD	International Classification of Diseases
NAO	National Audit Office
NART-R	National Adult Reading Test – Revised
NICE	National Institute of Clinical Excellence
OCD	Obsessive Compulsive Disorder
OCPD	Obsessive Compulsive Personality Disorder
PBI	Parental Bonding Instrument
PD(s)	Personality Disorder(s)
PDD-NOS	Pervasive developmental disorder not otherwise specified
RET	Revised Eyes Test
SCID-II	The Structured Clinical Interview for DSM-IV
ToM	Theory of Mind
WAIS	Wechsler Adult Intelligence Scale
WMS-R	The Wechsler Memory Scale – Revised

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Declaration

This thesis has been written for submission as a partial fulfilment for the requirements for the Universities of Coventry and Warwick Clinical Psychology Doctorate Programme. This thesis is the candidates own work, carried out under the supervision of Dr Tom Patterson and Dr Ian Hume. Authorship of published papers will be shared with the candidate's supervisors. This thesis has not been submitted for a degree at another university or institution.

The thesis chapters will be prepared for submission according to the criteria of the following journals:

Chapter I: Exploring the relationship between autism spectrum disorder (ASD) and personality disorder (PD) in adults: A systematic review of the literature. *Personality and Individual Differences* (see Appendix 1 for author's instructions).

Chapter II: Investigating the relationship between perceived parenting, personality traits and adult attachment. *Personality and Individual Differences* (see Appendix 1 for author's instructions).

Summary of Chapters

This thesis consists of three chapters, a literature review, an empirical paper and a reflective paper. The literature review explores the relationship between Autism Spectrum Disorder (ASD) and Personality Disorders (PDs). The focus is on examining empirical evidence regarding the shared features as well as the differences between the two types of disorder. The reviewed articles were all cross-sectional studies, with a range of population and comparison sample groups. The review identifies evidence suggesting that ASD and PD presentations share common features as well as displaying some distinct differences. Findings also point to considerable diagnostic co-occurrence of the two types of disorder. Methodological limitations are of the reviewed studies are discussed, clinical implications of the findings are considered and suggestions are made regarding future research directions.

The empirical paper investigates the relationship between perceived parenting styles, personality traits and adult attachment style. Data was collected from a non-clinical opportunity sample using a number of self-report measures. Using moderation analysis, explanatory models were created to represent the relationship between perceived parenting, adult attachment style and personality traits. Neuroticism, conscientiousness and agreeableness were the most prominent personality traits, while the relative contribution of these personality traits varied according to gender and adult attachment style. Adult attachment style was also found to be influenced by the perceived type of parenting received from opposite sex parents. The results are discussed in relation to the existing evidence base, as are clinical implications and future research directions.

Finally, the reflective paper comprises an overview of personal and professional development whilst undertaking my thesis. This involves a reflective discussion of my attachment style in relation to the research process and how this changed and developed over the course of writing my thesis.

Word count of thesis: 18,533

(Excluding: tables, figures, references and appendices)

Chapter I: Systematic Literature Review

Exploring the relationship between Autism Spectrum Disorder (ASD) and Personality Disorder (PD) in Adults: A Systematic Review of the Literature

Chapter Word Count: 8,247 (excluding tables, figures and references)

Prepared for submission to

'Personality and Individual Difference'

(See Appendix 1 for author guidelines)

1.1 Abstract

Autistic Spectrum Disorders (ASD) and Personality Disorders (PDs) are both prevalent in the UK. The present literature review explores the relationship between ASD and PDs in adults, focussing on the shared features, as well as the differences between the two types of disorder, with a view to identifying the clinical implications regarding accurate diagnosis, as well as avenues for future research. Databases were systematically searched for relevant literature published relating to ASD and PDs in adulthood. The resulting twelve articles comprised cross-sectional studies with a range of population and comparison sample groups. Despite the limited amount of published research in this area, there is evidence to suggest that ASD and Personality Disorder (PD) presentations share common features, as well as displaying some distinct differences. A further notable finding of the present review is that there is considerable diagnostic co-occurrence of the two types of disorder. It is recommended that future research should focus on developing a greater understanding of the similarities and differences between these two types of disorder with replication studies, as well as large-scale population based studies and further in-depth clinical studies indicated.

Keywords: Autism Spectrum Disorder, Asperger's Syndrome, Asperger's, ASD, Personality Disorder, review.

1.2 Introduction

1.2.1 Autism Spectrum Disorder

The word autism is derived from the Greek word *autos*, meaning self. The term describes presentations in which a person is removed from social interaction - hence, an isolated self. The term was first used clinically in the early 20th Century in reference to one group of symptoms of schizophrenia.

Autism Spectrum Disorder (ASD) is a life-long condition and was first recognised as a psychiatric diagnostic category in 1980 with the release of the *DSM-III*, despite being identified as a unique condition as early as 1943 (Lyons & Fitzgerald, 2007). Prior to this, children exhibiting 'autistic like' symptoms were classified under the schizophrenic reaction, childhood type (DSM-I; American Psychiatric Association, 1952) or diagnosed with schizophrenia, childhood type (DMS-II; APA, 1968). The first classification in the *DSM-III* pertained to *Infantile Autism*, however this was revised to *Autistic Disorder* in the *DSM-III-R* in 1987.

According to the *DSM-IV-TR*, Autistic Spectrum Disorders (ASD) include Autistic Disorder (AD), Asperger Syndrome (AS) and Pervasive developmental disorder not otherwise specified (PDD-NOS). The *Diagnostic and Statistical Manual of Mental Disorders* suggests that individuals with these disorders have qualitative impairment in areas of social interaction as well as restricted repetitive and stereotyped patterns of behaviour, interests and activities alongside impairments

in verbal and non-verbal communication (DSM-IV-TR; APA, 2000). These impairments are often referred to as 'The Triad of Impairment' (Van Wijngaarden-Cremers et al., 2014), with difficulties leading to clinically significant impairment in occupational and social functioning. A diagnosis of AD requires a delay in development obvious before the age of three years, however AS and PDD-NOS have no specific age onset stipulation.

With the introduction of the *DSM-V* in 2013 the terms 'autistic disorder', 'Asperger disorder' and 'PDD-NOS' were replaced with the collective term 'autism spectrum disorder' (ASD; DSM-V; APA, 2013). The triad of impairments was reduced to two domains: social communication and interaction; and restricted, repetitive patterns of behaviour, interests or activities with an inclusion of sensory needs. These changes highlight a shift from the diagnostic emphasis being on the correct term, to identifying individual's needs and determining how impairments will affect daily living.

1.2.2 Personality Disorder

The term Personality Disorder (PD) was included in the first version of the *DSM* (APA, 1952), though there had been interest in the concept of personality that is outside the norm since the Greek Philosophers described 29 personality types which deviated from the norm (Geetha, 2002). In the early 19th century, physicians expanded the concept to include some forms of insanity involving

disturbed emotions and behaviors but seemingly without significant intellectual impairment, delusions or hallucinations, e.g. 'manie sans délire' (insanity without delusion) and "moral insanity" which would be used to diagnose patients for some decades (Augstein, 1996). Entry into the *DSM* was largely influenced by the work of psychoanalysts of the time. In 1980 different Personality Disorders (PDs) were given more standard, consensus criteria that psychiatrists could agree on for purposes of diagnosis and research (Hoermann, Zupanick, & Dombeck, 2011).

A PD is defined as an "enduring pattern of inner experience and behaviours that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment" (DSM-IV-TR; APA, 2000). There are ten PDs defined in the *DSM-IV-TR* and *DSM-V*, which are grouped into three clusters, A, B and C. This categorisation is based on similarities between PDs but has been criticised due to major overlap between the different PDs (Shedler & Westen, 2007).

1.2.3 Prevalence and service provision for ASD and PDs

Whilst both types of disorder have long been a subject of fascination to physicians and psychiatrists with a lengthy history in the respective diagnostic manuals, there are still gaps in understanding and service provision for both. A recent report published by the National Audit Office (NAO, 2009) states that it is difficult

to quantify the number of people with ASD, however estimates suggest that there are approximately half a million people with autism in England, of whom around 400,000 are adults and that ASD is three to four times more prevalent in men than in women. They reported that approximately 200,000 adults with autism do not have a learning disability, highlighting a need for specialist support for this group as they are unlikely to be eligible for learning disability services or be able to access other support services unless they have a physical disability or a mental health problem. A separate report by the NHS Information Centre for Health and Social care estimated prevalence of autism among adults aged 18 years and over in the UK at 1.1%. According to data from the 2007 Adult Psychiatric Morbidity Survey (APMS, 2007 in Brugha et al., 2009) in combination with data from a new study of the prevalence of autism among adults with learning disabilities (Brugha et al., 2012), the prevalence of autism is higher in men (2.0%) than women (0.3%). Global estimates of prevalence of ASD are 62/10,000 worldwide (Elsabbagh et al., 2012).

As can be seen, ASD is a commonly occurring condition in the UK, yet as many as 80% of GPs surveyed by the NAO (2009) reported that they needed additional guidance and training in identifying and treating patients with ASD. In addition, the NAO also identified that many services providing support for those with ASD have inadequate knowledge and understanding of the disorder. Three quarters of local authorities reported difficulties for adults with ASD accessing the services

they require, with two thirds stating that current services for adults with autism are limited. The report emphasised two key areas where the effectiveness of existing services could be improved. These were better strategy and planning, based on good information and raising levels of knowledge and awareness of ASD and the potential needs of people with ASD. The NAO (2009) report concluded that providing specialized support could improve outcomes for this group of people and indicated that there are many potential benefits to providing specialist diagnostic and support services for adults with ASD, as these individuals often struggle to obtain a correct diagnosis (NAO, 2009).

With regard to PDs, according to the National Institute for Health and Clinical Excellence (NICE, 2009), approximately 2 million people in the UK have a PD, with antisocial and borderline PDs being the most prevalent types. A study by Coid, Yang, Tyrer, Roberts and Ullrich (2006) that aimed to measure the prevalence and correlates of PDs in a representative community sample in Great Britain, reported the prevalence of PDs as 4.4% with the highest rates occurring in men. These authors also reported that apparent high use of health care services was confounded by the frequently present comorbid mental health difficulties in this population and that services are often restricted to highly symptomatic, help-seeking individuals, indicating a need for greater understanding in community health services and a need for preventative intervention (Coid et al., 2006).

1.2.4 Shared features of ASD and PD

When broadly considering the diagnostic criteria for both ASD and PD some overlap between the two disorders can be seen. Shared features of the definitions for ASD and PD include maladaptive patterns of cognition, affect and interpersonal functioning. It has been argued that ASD and PD may form a continuum describing the same underlying mechanisms, though using different terminology (Soderstrom, Nilsson, Sjodin, Carlstedt & Forsman 2005). This overlap is perhaps more clearly illustrated when we consider the cluster categories for Personality Disorder in the *DSM-IV-TR and DSM-V.*

1.2.4.1 Cluster A

There are three personality disorders that fall into this cluster, Schizoid, Shizotypal and Paranoid. *DSM-IV-TR* criterion for diagnosis of schizoid PD delineates a compatible characterisation on ASD criteria. It emphasises that differentiating between Schizoid PD and Paranoid PD or ASD may be difficult. An exclusion criteria is stated which indicates that Paranoid PD must be ruled out before a diagnosis of Schizoid PD can be given. This is also the case for Schizotypal PD (DSM-IV-TR; APA, 2000). Given the difficulties in understanding the intention of others and the different levels of thought processing that is seen in ASD (Baron-Cohen, 1995; Bowler, 1992), it has been found that there may be some overlap in the criterion used to diagnose Paranoid PD with ASD though this may not be as

apparent as with Schizoid and Schizotypal PD (Bejerot, Nylander, & Lindstrom, 2001; Lugnegård, Hallerback, & Gillberg, 2012).

1.2.4.2 Cluster B

Cluster B comprises four PDs: Borderline, Antisocial, Narcissistic and Histrionic. The more emotional and impulsive PDs also bear some similarity to ASD diagnostic criteria. Though these are more apparent from a clinical perspective rather than through diagnostic criterion as with the Cluster A PDs.

Difficulties in interpersonal relationships, identity problems and difficulties with affect regulation as well as self-injurious behaviour and intense anger are shared traits of individuals diagnosed with Borderline PD (BPD) and those diagnosed with ASD (Fitzgerald, 2005; Pelletier, 1998).

The diagnostic criteria for antisocial PD (ASPD) are mainly behavioural and these antisocial behaviours associated with ASPD can also be seen in people with ASD. The two disorders also share impaired social functioning characteristics (Wallace et al., 2012). It has been suggested that the antisocial behaviour present in both disorders may be due to deficits in ability to empathise and there is a growing body of evidence regarding cortical correlates as well as cognitive and emotional empathic deficits present in both ASD and ASPD (Blair, 2008; Wallace et al., 2012).

Similarly, individuals with Narcissistic PD show, in common with people with ASD, difficulty in interpreting social situations due to deficits in being able to recognise the feelings and needs of others (Lugnegård et al., 2012). Histrionic PD has the least overlap with ASD. It is unlikely that an individual with ASD will have marked histrionic traits (Lugnegård et al., 2012).

1.2.4.3 Cluster C

The final three PDs that make up Cluster C are characterised by anxious traits. These are Avoidant PD, Obsessive-compulsive PD (OCPD) and Dependent PD.

Lugnegård et al. (2012) suggest that many of the criteria for Avoidant PD are present in individuals with ASD, such as fear of social situations and impairment in social communication. However they argue that this may be due to deficits in ability to interpret social cues leading to avoidant behaviour rather than avoidant PD.

There is significant overlap in the diagnostic criteria for OCPD and ASD. Fitzgerald (2002) suggests that there is a clear risk of misdiagnosis if ASD is not considered in individuals presenting with obvious obsessive-compulsive traits. The main difference in diagnostic criteria is the age of onset with OCPD the onset of behaviour is early adulthood, whereas for ASD a childhood onset is stipulated (DSM-IV-TR; APA, 2000).

Lugnegård et al. (2012) argue that any psychiatric condition that leads to difficulties in day to day activities and an inability to cope could emulate dependent PD. An increased need for practical and emotional support may be present in individuals with ASD, however the *DSM-IV* stipulates that this should not be a consequence of an Axis I disorder, though it does not have a specific exclusion criteria for ASD.

1.2.5 Clinical Implications for Diagnosis

It is not uncommon for individuals with ASD to remain undiagnosed until adolescence or adulthood (Ozonoff, Garcia, Clark & Lainhart 2005) when they are often misdiagnosed with a variety of labels ranging from learning disability to depression, schizophrenia and personality disorders. Given the prevalence of both ASD and PDs, adult services often have waiting lists and interventions are limited. The inaccurate diagnosis of ASD as PD may have an impact on treatment outcome, as many people with ASD are unable to utilise the therapeutic intervention recommended for BPD for example. Without accurate diagnosis, appropriate treatment services cannot be offered.

Clinical experience of practitioners working in the field has identified similarities between the two types of disorder. Whilst this may be deemed as anecdotal evidence, there is growing evidence indicating similarities between ASD and a number of PD types (Blair, 2008; Fitzgerald, 2002, 2005; Pelletier, 1998).

1.2.6 Rationale

A number of studies have examined the relationship between ASD and PD, either as the sole focus of the study (e.g. Rydén, Rydén & Hetta, 2008) or as part of a larger study (e.g. Bejerot et.al, 2001; Murphy, 2003, 2006 & 2011).

Evidence has emerged suggesting that there are areas of substantial overlap and shared features between ASD and PD (Lugnegård et al., 2012). Empirical research has varied in the type of PD presentation studied, nonetheless, findings worthy of consideration have emerged, suggesting shared features and overlap in areas of ASD and PD (Fitzgerald, 2002; Pelletier, 1998; Anckarsäter et al., 2006; Rydén & Bejerot, 2008). In a similar vein, studies have highlighted a number of differences between the two types of disorder (Murphy, 2003, 2006; Wahlund & Kristiansson, 2006).

Whilst there is not currently a large amount of empirical evidence regarding the relationship between ASD and any one particular PD or cluster of PDs, a growing number of studies have presented findings which indicate either a relationship or an overlap between ASD and PDs more broadly. This suggests that the relationship between both types of disorder merits further attention of researchers and clinicians working in these fields, in order to better understand the implications of this relationship or overlap for clinical practice with both types of disorder. The present literature review provides a starting point in attempts

to draw together and critically appraise the existing empirical literature in this area.

1.2.7 Aims and scope of the present literature review

The aim of the present literature review was to critically evaluate the existing empirical evidence from research that has examined the relationship between ASD and PDs.

A systematic review was considered the most appropriate approach to allow for a more unhindered discussion around the review focus. This alsoallowed the current empirical evidence to be incorporated in such a way as to guide future research, by identifying areas where greater understanding is needed. This may in turn encourage more research which might lead to a review where meta-analysis would be more appropriate at a future point.

Given the dearth of previous reviews investigating the connections between ASD and PD, the present review was somewhat exploratory in nature. It was hoped that findings from the current review would serve to:

Further our understanding of shared features of ASD and PD, as well as of distinct features of the two types of disorder.

Identify clinical implications arising from the findings of the research in this area.

Determine directions for future research in this area in order to further develop and strengthen the existing evidence base.

1.3 Method

1.3.1 Search Strategy

The search strategy was informed by the review aim. Search terms were identified from published research in the field and synonyms were selected to represent these (Table 1.1).

Table 1.1.

Search terms identified from the review aim "What is the relationship between ASD and PD?"

Concept	*1. Autism Spectrum Disorder*	*2. Personality Disorder*	*3. Adult*
Search term	Autism Spectrum Disorder ASD	Personality Disorder	Adult
Variations	Asperger's Syndrome Autistic spectrum disorder Autis*		

Note. Terms from Concepts 1, 2 and 3 were combined using the Boolean operator "and". Truncation to capture variation in the terminology is represented by *.

1.3.2 Data Sources

Databases were chosen that would provide access to journals with content relevant to the review. Identified search terms were entered into the following core databases: PsycInfo, CINAHL, SCOPUS and Medline. The search included terms present in the title, abstract and/or keywords. This provided consistency of searches across the databases. No timeframe restrictions were applied. Citation searches and hand searches of reference lists of accessed articles were carried out in addition to database searches. Searches were conducted between March and April 2015.

1.3.3 Selection Criteria

Articles retrieved through database searches were assessed for eligibility according to the inclusion and exclusion criteria (Table 1.2.).

1.3.4 Systematic search results

Initially, study titles were screened to determine their relevance for inclusion in the current review. Secondly, abstracts of all relevant titles were screened to determine whether the primary research met the inclusion criteria for the current review. Full texts of these articles were then screened in order to determine whether they should be included in the review. A citation-based search, as well as a hand screening of reference lists, was then conducted. A diagrammatic

representation of the study selection process is shown in Figure 1.1. in accordance with PRISMA group guidance (Liberati et al., 2009). A total of 1170 articles were retrieved, of which 99 were duplicates. This resulted in a remaining 1071 studies for consideration against the inclusion and exclusion criteria. A total of 12 studies met the inclusion criteria.

Table 1.2.

Inclusion and Exclusion Criteria.

Inclusion Criteria	**Exclusion Criteria**
Published in a peer review journal written in the English Language. Adult sample. Participants who met the diagnostic requirements for ASD and/or PD. Recognised diagnostic criteria (ICD/DSM) for ASD and/or PD used. Formally examined the relationship between ASD and PD off any type.	Review papers, Opinion papers, Commentary, letter or a book chapter. Mean age of the participants was below 18 years. Comorbid learning disabilities. Primary focus on 'traits' rather than diagnostic criteria pertaining to 'disorder'.

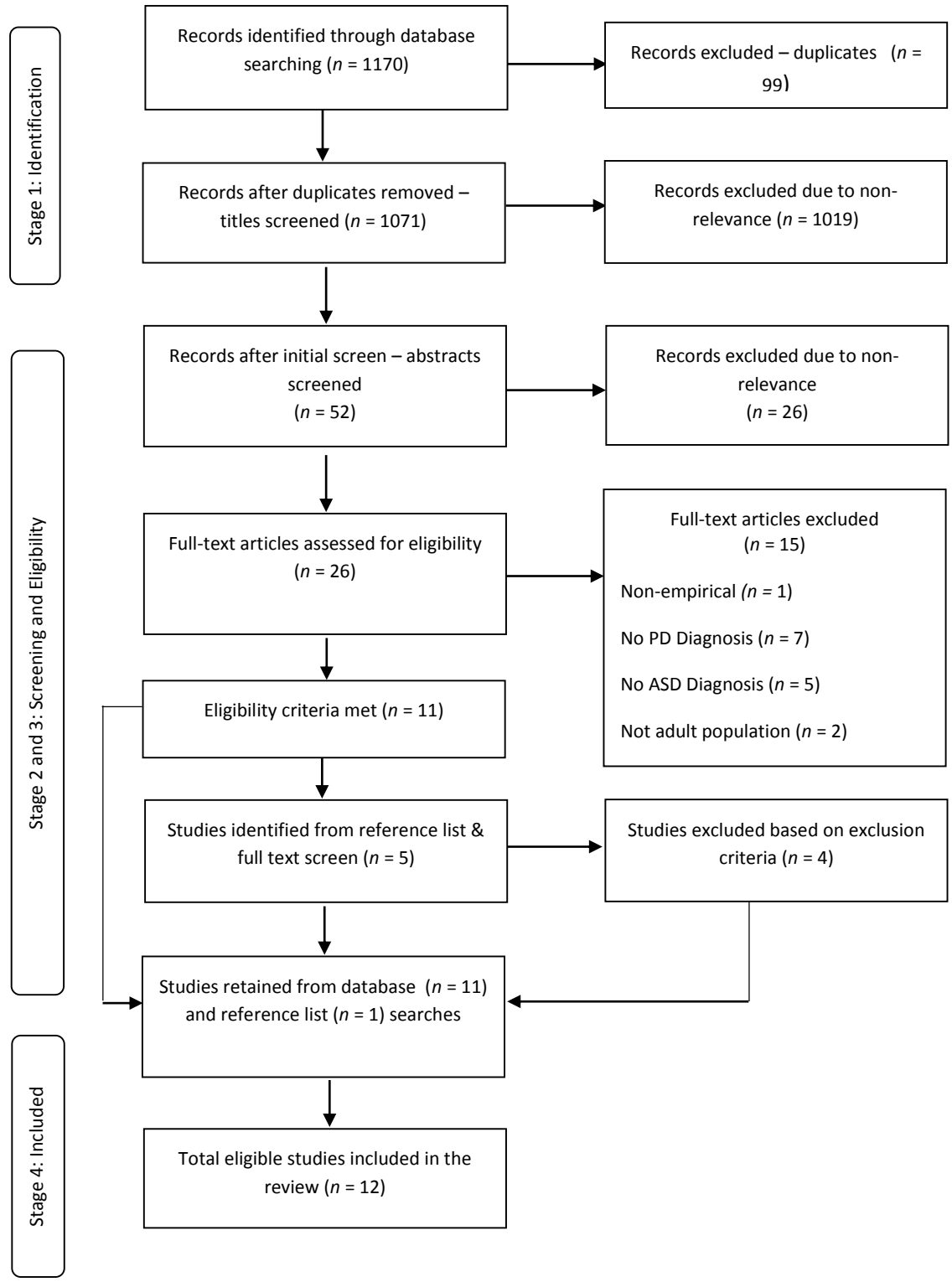

Figure 1.1. PRISMA flow diagram detailing the study selection process

1.3.5 Quality Assessment Framework

The twelve papers that met the eligibility criteria for the present review were subjected to a quality rating review. A framework developed by Caldwell, Henshaw and Taylor (2005) to critically appraise health research was utilised to examine the selected papers. This allowed information about each study, such as the population, aim and rationale, methodology and analysis to be evaluated and given a quality rating. Whilst no study was excluded on the basis of the quality rating the assessment enabled the researcher to examine the quality of the evidence whilst synthesising findings.

In order to ensure consistency in rating, a small proportion of the articles (16%) were independently peer rated against the same quality assessment framework and a Kappa Coefficient (Carletta, 1996) was calculated (k = .58, p = .001 & k = .88, p < .001). No significant discrepancies were found indicating that the quality rating was reliable with good inter-rater reliability.

The quality assessment tool consisted of 18 quality criteria. Each of the studies was rated as 'yes', 'no' or 'partial' against these criteria. The total number of ratings was then calculated and converted to give a percentage score for each article (Appendix 2). The mean percentage quality rating across the twelve studies was 79% with a range of 56% to 89%. Higher scores were indicative of studies of greater quality (see Table 1.3).

1.4 Results

In reporting these results, the term ASD will be used throughout to incorporate all diagnoses on the autism spectrum, including Autism, Asperger's Syndrome, High-functioning autism, and PDD-NOS.

1.4.1 Overview of reviewed studies

A summary of each of the 12 studies, including the assessment tools used and key findings is provided in Table 1.3. As the present review focussed on the relationship between ASD and PD, only study findings that have direct relevance to the aim of the present literature review are presented and discussed. A number of methodological issues were identified and these are discussed throughout the review.

Of the 12 studies reviewed, six were conducted in Sweden, one across Sweden and France, one in the Netherlands and four in England.

In summary, six of the studies recruited participants with a diagnosis of ASD or suspected neurodevelopmental disorder, one study looked at participants with a primary diagnosis of BPD. One study utilised a sample with a primary diagnosis of Obsessive Compulsive Disorder (OCD) to examine the overlap in diagnostic criteria of ASD and PD within this particular clinical sample. Finally, the remaining four studies included both ASD and PD participant groups for comparison and

were all based in a forensic setting. The diagnostic criteria most commonly adopted in the studies reviewed were the DSM-IV criteria, with the exception of studies conducted in England which tended to favour ICD-10 diagnostic criteria.

A range of assessment methods were used across studies. The Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II) was the most commonly used tool to assess whether participants met the diagnostic criteria for PD, whilst a combination of the Autism Diagnostic Interview – Revised (ADI-R) and the Asperger Syndrome Diagnostic Interview (ASDI) was the most commonly used method to asses fulfilment of diagnostic criteria for ASD.

Table 1.3.

Overview of included studies

Author (s); Year; Title & Country	Design & Quality Rating	Sample	Assessment & Measures used	Diagnostic Criteria Used	Key Findings
Studies Investigating ASD in a PD Population					
Rydén, Rydén & Hetta (2008) Borderline personality disorder and autism spectrum disorder in females – a cross-sectional study. Sweden	Cross-sectional 80%	Adult psychiatric patients with a diagnosis of Borderline PD (BPD). *N* = 41 (41 Female, mean age = 29 years)	Clinical History Interview SCID-II Mini International Neuropsychiatric Interview (M.I.N.I.) Structural Analysis of Social Behaviour (SASB) Medical records WAIS-III	DSM-IV	- Anger more commonly reported problem in those with ASD & BPD than those found not to meet diagnostic criteria for ASD. - No significant difference between ASD & BPD and non ASD & BPD participants for substance misuse. - Higher levels of suicidal thoughts were reported in those with ASD & BPD compared to those with BPD without ASD. - Lower levels of self-love and self-control reported in those with ASD & BPD compared to those with BPD and no ASD. - Global functioning was lower in those with ASD & BPD compared to those with BPD without ASD.

Studies Investigating PD in an ASD Population					
Anckarsäter et al., (2006) The Impact of ADHD & ASD on Temperament, Character and Personality Disorder. Sweden	Cross-sectional 89%	Adult psychiatric population with suspected neurodevelopmental disorders. *N* = 240 (131 Male; 109 Female; median age = 31 years)	Structured Clinical Interview for DSM-IV I (SCID I) Yale-Brown Obsessive Compulsive Scale (Y-BOCS) Asperger Syndrome and High Functioning Autism Screening Questionnaire Asperger Syndrome Diagnostic Interview (ASDI) Semi structured interview with relatives Child psychiatric and school records	DSM-IV	- 75% of participants met the criteria for at least one PD. - Subjects with confirmed ASD met the criteria for Obsessive Compulsive PD (OCPD) at significantly higher rates than those found not to have ASD. - Those suspected to have ASD indicated a clinically significant rate of PD with only 15% of sample not meeting diagnostic cut off.
Lugnegård et al., (2012) Personality Disorders & autism spectrum disorders: what are the connections? Sweden	Cross-sectional 92%	Adults with a diagnosis over ASD requiring support in adulthood. *N* = 54 (26 Male; 28 Female; mean age – 27 years)	Diagnostic Interview for Social and Communication Disorder (DISCO v11) interview with close relative SCID-I SCID-II Medical records WAIS-III AQ	DSM-IV	- 52% (19F; 9M) did not meet the criteria for any PD. - 48% (9F; 17M) did meet the criteria for PD; with Schizoid PD, OCPD & Avoidant PD being the most frequent respectively.

Hofvander et al., (2009) Psychiatric & psychosocial problems in adults with normal-intelligence autism spectrum disorders. Sweden & France	Cross-sectional 86%	Adult with Normal Intelligence diagnosed with ASD (sample partially identified by Anckarsäter et al., (2006)) *N* = 122 (82 Male; 40 Female; median – 29 years)	Semi structured interview with parents Current clinical status Childhood medical records ASDI SCID I Structured Clinical Interview for DSM IV II – Personality Disorders (SCID II)	DSM-IV Gillberg & Gillberg ASD Criteria	- 62% of subjects met the diagnostic criteria for at least one PD; 35% for 2 PDs and 17% for 3 PDs. - OCPD was most frequently diagnosable in Autism Disorder and Asperger's Syndrome (20% & 40% respectively). - Schizoid PD was most commonly found in PDD-NOS (24%) - No reported Histrionic PD - More cluster A & C PDs reported than Cluster B PD. - Antisocial PD was only reported in those with PDD-NOS
Ketelaars et al., (2008) Brief Report: Adults with Mild ASD: Scores on the Autism Spectrrum Quotient (AQ) and comorbid Psychopathology. Netherlands	Cross-sectional 72%	- ASD Group - Adult Psychiatric population with suspected and found ASD *N* =15 (12 Male; 3 Female; mean age 22 years) - Non ASD Group - Adult Psychiatric population with suspected and unfounded ASD *N* =21 (18 Male; 3 Female mean age 27 years) - Control Group - Adult psychiatric population *N* = 369 (180 Male; 189 Female; mean age 35 years)	Autism Spectrum Quotient ADI-R Autism Diagnostic Observation Scale (ADOS) Semi structured interview with parents Schedules for Clinical Assessment in Neuropsychiatry (SCAN-2.1) International Personality Disorder Examination (IPDE)	DSM-IV	- 47% of ASD group found to meet diagnostic criteria for PD. Most prevalent being Schizoid PD (20%). - 48% of Non ASD group found to meet diagnostic criteria for PD. Most prevalent being OCPD (20%).

Rydén and Bejerot (2008) Autism spectrum disorders in an adult psychiatric population. A naturalistic cross-sectional controlled study. Sweden	Cross-sectional 78%	Adult psychiatric population with suspected neurodevelopmental disorders with Normal Intelligence. ASD Group: *N* = 84 (45 Male; 39 Female; mean age = 30 years) Control Group: *N* = 46 (21 Male, 25 Female; mean age = 34 years)	Five-to-fifteen interview with parent Autism Spectrum Screening Questionnaire (ASSQ) ASDI WAIS-III Montgomery Asberg Depression Rating Scale (MADRS) Brief Obsessive Compulsive Scale (BOCS) GAF The Clinical Global Impression of Severity of Illness (CGI-S) Adult ADHD Self-Report Scale (ASRS) Wender-Reimherr Adult Attention Deficit Disorder Scale (WRAADDS) SCID-II The Swedish Universities Scales of Personality (SSP)	DSM-IV	- > 40% of AD group reached cut off for BPD diagnostic criteria. - 37% of control group reached cut off for BPD for diagnostic criteria. - In the ASD group females scored themselves significantly higher in BPD traits - No sex differences were noted in the control group.

Tantam, D. (1988) Lifelong Eccentricity and Social isolation II: Asperger's Syndrome or Schizoid Personality Disoder? England	Cross-sectional 56%	Adult psychiatric patients *N* = 41	Extended structured Interview Assessment of Non-verbal expression Test of Apraxia Personality Questionnaire WAIS Developmental History with Parent or carer CT Scan	DSM-III-R	- 42.5% of subjects met the diagnostic criteria for Schizotypal PD. - 92.5% of subjects showed features of Schizotypal PD. - No significant difference was found in the schizoid score of those showing abnormalities of non-verbal expression and those without abnormalities of non-verbal expression.
Studies comparing adults with ASD and adults with PD					
Murphy, D. (2003) Admission and cognitive details of male patients with Asperger's Syndrome detained in a Special Hospital: comparison with a schizophrenia and personality disorder sample. England	Cross-sectional 83%	Matched groups - Forensic patients detained under MHA in high security care with diagnoses of ASD, Borderline / Dissocial Personality Disorder and Schizophrenia Total *N* = 39 (39 Male) ASD Group *N* = 13 PD Group *N* = 13 Schizophrenia Group *N* = 13	WAIS-R National Adult Readding Test (NART-R) Weschler Memory Scale (WMS) Adult Memory and Information Processing Battery (AMIPB) Classic Weigl Violence Rating Scale (VRS)	ICD-10	- No significant difference in age or age at admission between ASD & PD group. - 1 subject from the ASD group had alcohol/ substance misuse compared to 11 subjects in the PD group. - The ASD group had less violent index offences compared to the PD group with significantly lower total violence ratings being reported in ASD compared to PD. - ASD group performed significantly better in the block design task though there was no difference in overall WAIS-R scores between ASD & PD groups. - No significant difference between ASD & PD groups on NART error scores.

Murphy, D. (2006) Theory of mind in Asperger's syndrome, schizophrenia and personality disordered forensic patients. England	Cross-sectional 83%	Matched groups - Forensic patients detained under MHA in high security care with diagnoses of ASD, Borderline / Dissocial Personality Disorder and Schizophrenia Total *N* = 39 (39 Male) ASD Group *N* = 13 PD Group *N* = 13 Schizophrenia Group *N* = 13	Revised Eyes Task Modified advanced Theory of Mind test WAIS-R	ICD-10	- No significant difference in IQ between the ASD and PD groups. - The ASD group performed significantly worse on the RET than the PD group. - The ASD group scored significantly lower in second order mental representation tasks than the PD group.
Murphy, D. (2011) Autism spectrum quotient (AQ) profiles within high security psychiatric care: comparison with personality and cognitive functioning. England	Cross-sectional 86%	Forensic patients detained under MHA in high security care with diagnoses of ASD, Borderline / Dissocial Personality Disorder and Schizophrenia Total *N* = 105 (105 Male) ASD Group *N* = 12 (mean age = 29.8 years) PD Group *N* = 24 (mean age = 37.1 years) Schizophrenia Group *N* = 69 (mean age = 36.9 years)	AQ ADI-R or AAI or DISCO WAIS-III Hayling Brixton The RET Millon Clinical Multiaxial Personality Inventory III (MCMI-III)	DSM-IV	- ASD group scored significantly higher in subtests of AQ (social skills, communication and attention switching) than PD or Schizophrenia groups. - 66% of ASD group reached the cut off on AQ compared to 9.9% of the PD group.

Wahlund and Kristiansson (2006) Offender Characteristics in Lethal Violence with Special Reference to Antisocial and Autistic Personality Traits. Sweden	Retrospective 86%	Male offenders convicted of murder or manslaughter referred for psychiatric assessment and assigned a diagnosis of ASD or Antisocial PD (APD). *N* = 35 (35 Male) ASD Group *N* = 8 APD impulsive type *N* = 14 APD controlled type *N* = 13	Family mental health history Forensic history WAIS-R Violence rating using Crime Analysis	DSM-IV	- No significant difference was found in socioeconomic status, demographic and psychosocial variables between groups. - 25% of the ASD group reported a history of physical abuse compared to 59% of the APD group. - Significant difference in weapon choice with 28% of the ASD group using guns or knives compared to 8% of the APD groups. - The ASD group was significantly less likely to be intoxicated at the time of the index offence compared to the APD group (56% vs 90% respectively).
Bejerot et al., (2001) Autistic traits in obsessive-compulsive disorder. Sweden	Cross-sectional 78%	Adult population with diagnosis of OCD *N* = 64 (30 Male, 34 Female)	Structured Clinical Interview for DSM-IV II (SCID II) High functioning Autism/Asperger's Syndrome Global Scale (HAGS) ASDI DSM-IV & ICD-10 Personality Questionnaire (DIP-Q) Y-BOCS Global Assessment of Functioning (GAF)	DSM-III-R DSM-IV ICD-10	- Subjects found to have clinically significant autistic traits had a mean of 2.8 PD compared to 1.5 PD of those without clinically significant autistic traits - A significant difference in meeting diagnostic criteria for Avoidant PD was found in those with clinically significant autistic traits. - 85% of those with clinically significant autistic traits fulfilled the criteria for any PD compared to those without clinically significant autistic traits (55%).

1.4.2 Key findings - The relationship with Autistic Spectrum Disorder and Personality Disorder

1.4.2.1 Studies investigating ASD in a PD Population

Rydèn et al. (2008) conducted a cross-sectional study with a sample of 49 women referred to a Mentalisation Based Treatment team (MBT-t). The purpose of the team was to assess and treat *difficult-to-treat* patients with a diagnosis of BPD. The study firstly aimed to explore the prevalence of ASD in BPD patients. If a group from the BPD patients was identified that met the diagnostic criteria for ASD the secondary aim of the study was to compare the ASD patients with non-ASD BPD patients on a number of clinical measures. They also aimed to describe characteristic features in patients with comorbid ASD and BPD.

The study found that 15% of the BPD sample also met the diagnostic criteria for ASD allowing for comparisons to be made between those with BPD and those with comorbid BPD and ASD. Suicidal acts were found to be significantly higher in the BPD-ASD group and this group also displayed lower levels of global functioning. There were also differences in substance misuse and self-image, with those with co-occurring ASD not meeting the criteria for any substance misuse disorders compared to 71% of the BPD group. The BPD-ASD group also showed significantly lower levels of self-love and higher levels of self-hate. This may go some way to explaining the increased presence of suicidal ideation and frequent suicidal acts in the comorbid group.

The final aim of the study was to identify characteristic features of women with comorbid ASD and BPD. The features identified were, high levels of suicidal ideation and frequent suicide attempts alongside marked negative self-image and absence of substance abuse. The authors propose that presence of these features in women presenting with BPD represent a clinical indicator that ASD may be present and should be assessed for.

This study presents with a number of limitations. The small sample size (*n*=49) means that the findings should be generalised with caution. Given the recruitment method there is also the possibility of selection bias within the sample. It is also worth noting that the sample was identified as a complex and severely ill group and it is therefore possible that results were impacted upon by the level of clinical need presenting in the clinical sample.

1.4.2.2 Studies investigating PD in an ASD Population

A comprehensive cross-sectional study undertaken by Anckarsäter et al. (2006) used a relatively large sample of 240 psychiatric patients with suspected neurodevelopmental disorders (ASD & ADHD). Each participant was assessed to confirm the presence of neurodevelopment disorder. The aim of the study was to determine the prevalence of PDs as defined in the *DSM-IV* in a neuropsychiatric population with a diagnosis of either ASD (*n*=113), ADHD (*n*=147) or ASD and ADHD (*n*=47). The presence of PDs was assessed through the use of both self-report measures and clinical interview, with 75% of participants meeting the diagnostic criteria for at least one PD. Results showed that the cohort differed

dramatically from the general population in self-report personality measures, with extremely low scores for self-directedness and cooperativeness being recorded in those with ASD, thus indicating a high rate of clinically significant PDs in the subjects. OCPD (42.6%) was the most frequently recorded comorbid presentation followed by Avoidant (34%) and Schizoid (31.9%) PDs.[1] There was no comorbid presence of Histrionic or ASPD in the ASD cohort. Narcissistic PD was the least frequently recorded PD in the cohort, with dependent and BPD also showing less of a comorbid presence in those with ASD.

Anckarsäter et al. (2008) argue that these findings indicate a strong likelihood of a primary diagnosis of PD being given in a patient with an undiagnosed neurodevelopmental disorder. They propose that, whilst this may be correct according to the relevant diagnostic manual, it may not further aide clinical understanding of the individual's difficulties. Whilst this study provides interesting findings with potentially important clinical implications, it is important to note that the majority of ASD diagnoses in the study were given retrospectively and therefore the results need to be interpreted with caution.

A similar study undertaken by Lugnegård et al. (2012) also looked at the comorbid presence of PDs in a clinical sample of 54 participants with a diagnosis of ASD, the majority of whom had received their ASD diagnosis in adulthood. This study did not rely on self-report measures, with presence of PD being assessed on the basis of clinical interview only, with reference to the diagnostic criteria in the *DSM-IV-*

[1] These percentages are greater than 100 in total as some participants met the criteria for more than one PD.

TR. Results showed 48% of participants met the diagnostic criteria for any PD, with the PD categories present being similar to those found by Anckarsäter et al. (2006). Lugnegård et al. (2012) reported that Schizoid PD (26%) had the most clinical overlap with ASD, followed by OCPD (19%) and Avoidant PD (13%). With Schizotypal PD being the least frequently reported comorbid PD (2%). These authors found no comorbidity in any of the Cluster B PDs in this cohort or presence of Paranoid or Dependent PD. They reported no differences between men and women.

Hofvander et al. (2009) also looked at the frequency of co-occurring PDs in a cross-sectional study of 122 adults diagnosed with ASD in adulthood with normal-intelligence. They separated their findings into Autistic Disorder (AD), Asperger's Syndrome (AS) and PDD/NOS. Again they used the diagnostic criterion set out in the DSM-IV, and found that 62% of participants met PD criteria. They found that OCPD was significantly more common in the AS groups *(x^2* = 4.26, df = 1, p = .04*)* whilst Antisocial PD was significantly more common in the PDD/NOS group *(x^2* = 5.14, df = 1, p = .04). They also found Schizoid PD to be significantly more common in female subjects *(x^2* = 6.72, df = 1, p = .02). In addition, those with less autistic symptomology (AS and PDD/NOS groups) had higher rates of at least one comorbid PD (20% AD, 68% AS and 60% PDD/NOS).

In a further cross-sectional study, Ketelaars et al. (2008) compared a sample of psychiatric patients with ASD to psychiatric patients without ASD. Whilst participants in the ASD group were diagnosed with ASD in adulthood, only individuals who had a parent able to provide a full developmental history were

included in the study. They found no differences between the ASD group and non-ASD group on individual PD diagnoses. The findings were, however, consistent with findings from other similar studies, with Schizoid (7%), Avoidant (7%) and BPD (7%) being equally co-occurring in the ASD group.

One limitation of this study was the relatively small sample size in the ASD group (*n*=15). Ketelaars et al. (2008) also reported that the ASD group had only mild symptoms of ASD, therefore the results may not generalise to populations with more severe ASD symptoms. The authors also suggest that low severity of ASD symptoms may account for the lack of difference between the ASD and non-ASD groups in terms of PD comorbidity. Interestingly this contrasts with the findings of Hofvander et al. (2008) who reported that those with less autistic symptomology had higher rates of PD.

A naturalistic study conducted by Rydèn & Bejerot (2008) also compared a psychiatric group diagnosed with ASD to a psychiatric group without ASD. They found that the ASD group met the diagnostic criteria (DSM-IV) for a median of four PDs compared to two PDs in the non-ASD group. The most commonly found PDs in the ASD group were Avoidant, BPD and OCPD compared to OCPD and BPD in the non-ASD group. They also found evidence of comorbidity of each PD type in the ASD group with females scoring significantly higher on Borderline and Passive-Aggressive PDs than males.

Finally, Tantam (1988) explored the symptomology for Schizoid PD in a group of psychiatric patients who were socially isolated and identified to have ASD. He

found that 42% of the sample was diagnosable with Schizotypal PD according to the DSM-III criterion. He also reported that a large majority of the sample showed features of Schizotypal PD without reaching the cut-off for diagnosis. He found that there was no difference in the schizoid score of those showing abnormalities of non-verbal expression and those without said abnormalities. It is worthy of note that this study received a relatively low score on the quality assessment framework utilised in the present review due to discrepancies in reported sample and lack of standardized assessment tools and measures. The study had significant design weaknesses and therefore less weight should be given to these findings until a more carefully designed replication study is conducted.

1.4.2.3 Studies comparing adults with ASD and adults with PD

Five studies directly compared participants who had a diagnosis of ASD with participants who had a diagnosis of PD. Three of these studies were undertaken in a High Secure Forensic Psychiatric Unit in the UK by Murphy (2003; 2006 & 2011). The first of these studies aimed to compare male patients with ASD to a matched group of patients with PD and schizophrenia on the basis of a cognitive functioning (cognitive assessment results), admission details and offending history. Using a relatively small sample (*n*=39) that was nonetheless representative of the patient population they found that there were few differences between the ASD and PD groups.

There were no significant differences in admission details or in the presence or absence of a history of violence between the groups. They did however identify that the ASD group had a significantly lower total violence rating (X^2 11.2, df 2, p <.05) compared to the PD group as well as a lower violence rating of index offence (X^2 6.24, df 2, p <.05). In terms of cognitive profile, no significant difference was found between the ASD and PD groups for Full Scale IQ (FSIQ) score measured using the WASI-R (Wechsler, 1986) (U = 59.0, Z = -1.31, n.s)[2], however there was a significant difference in performance on the Block Design subtest, with the ASD group performing significantly better (U = 38.5, Z = 1.96, p < .05). This appears to contrast with previous findings that those with a diagnosis of ASD have difficulties with tasks of executive function (Ozonoff, Pennington & Rogers, 1991). They also found no significant difference between the two groups in terms of cognitive flexibility or immediate and delayed recall (U = 46.5, Z = -.60, n.s.) measured using the WMS-R (Wechsler, 1988). It was however found that the ASD group had a higher level of reading ability with a significant difference between the two groups in error scores (U = 25.0, Z = -2.89, p < .01) on the National Adult Reading Test - Revised (NART-R; Nelson & Willison, 1991). Murphy concluded that it was not possible to distinguish between ASD and PD patients on admission details and cognitive profile.

There were a number of important limitations in this study. Whilst matched groups were used, the sample size in each group was relatively small (n = 13). In addition, 12 of the 13 patients in the ASD group also had a co-morbid diagnosis

[2] n.s = not significant

of either schizophrenia or PD, meaning that results should be interpreted with caution. The PD group did not give details of individual PD diagnosis, making comparisons difficult. In addition, the diagnostic manual (ICD-10; WHO, 1992) used a categorical rather than continuum approach to ASD diagnosis. Therefore the ASD group was highly select and may not fully represent those with ASD that become involved with forensic services. There was also no consideration of the effect of psychotropic or neuroleptic medication on cognitive performance.

In 2006 Murphy used the same forensic sample to compare performance on the Revised Eyes Task (RET; Baron-Cohen et al., 2001) and a modified advanced Theory of Mind Test (Happè, 1994) as well as cognitive function. The aim was to examine whether it was possible to distinguish patients with ASD from patients with PD (specifically those with a diagnosis of ASPD and/or BPD). He hypothesised that the ASD group would display difficulties in Theory of Mind (ToM) compared to a PD group that would not. Again Murphy (2006) found that there was no difference in FSIQ between ASD & PD groups (U = 59.0, Z = -1.31, n.s). Analysis showed that the ASD group performed significantly worse than the PD group on the RET (U = 4.00, Z = -4.13, p *<.005)*. With regard to the ToM Test, it was reported that whilst there was no difference between the ASD and PD groups in scores on the first order mental representation stories (H = 3.1 (2), n.s.) the ASD group performed significantly worse on the second order mental representation stories than the PD group (U = 46.0, Z = -2.0, p <.05). There was no significant difference between patient groups in the memory questions of

either first or second order mental representation stories (*H* = 4.9 (2), n.s and *H* = 5.2 (2), n.s respectively).

Whilst it would initially appear from these findings that it is possible to distinguish ASD patients from PD patients on their performance in ToM tasks, caution is needed. Whilst the study did demonstrate significant group differences in performance on certain ToM tasks, individual performance of ASD participants varied widely (27.7% - 94.4%) and this variation within the ASD group merits more careful consideration in future replication studies. In addition to this, consideration of the effects of antipsychotic medication was not controlled for in the study, and again, a replication study might usefully control for potential effect of medication on cognitive and ToM performance. These limitations were acknowledged by the author who concluded that ToM performance is unlikely to be an accurate diagnostic marker in this population.

In a further study, Murphy (2011) built on his earlier findings through examining the ability of the Autism Spectrum Quotient (AQ) to discriminate between an ASD group and a PD group. He hypothesised that the ASD group would have higher AQ scores than the PD group. Findings supported his hypothesis with the ASD group scoring significantly higher on the AQ than the PD group, with the subsets of social skills, communication and attention switching discriminating between the two groups. He also found that 66.6% of the ASD group reached cut-off on the AQ compared to 9.9% of the PD group indicating significant difference in the AQ profiles of the two groups. Although these findings are very interesting, the study does have similar limitations to Murphy's previous work (2003; 2006) and

there is clearly a need for replication studies as well as studies that address some of those limitations and can build upon these promising preliminary findings.

Another study undertaken with an adult male forensic population in Sweden aimed to assign individuals convicted of homicide or manslaughter to ASD or ASPD categories according to the *DSM-IV* criteria (Wahlund & Kristiansson, 2006). The aim was to investigate the differences in psychosocial and offending patterns within the two groups. The study did not find any significant differences in many of the variables between the groups (e.g. education level, early on-set criminal behaviour, psychiatric support in childhood, relationship to victim or type of crime scene), however they did find that 25% of those in the ASD group had a history of physical abuse in childhood compared to 59% in the ASPD group. They also found that the weapon used differed between groups, with 28% in the ASD group using knives or guns compared to 80% in the ASPD group. They also found that those with a diagnosis of ASD were less likely to be intoxicated at the time of the index offence than those diagnosed with ASPD (56% vs 90% respectively). There were a number of important study limitations, in particular the retrospective design which relied on data obtained from historic forensic psychiatric reports, as well as the relatively small sample group *(n* = 35).

A final study investigated ASD and PD in participants diagnosed with OCD (Bejerot et al., 2001). Assessment for ASD and PD diagnostic cut-off (DSM-III-R & DSM-IV) was conducted with each individual. Results showed that the most prevalent PD categories across the whole sample were Avoidant, Paranoid and OCPD, whether ASD was present or not.

Those with comorbid OCD and ASD were significantly more likely to fulfil categorical criteria for PDs than those without ASD. These were most likely to be Cluster A PDs (chi² = 3.9, *p* = .05). Dimensional assessment of PDs again revealed that those with comorbid OCD and ASD showed a tendency towards Avoidant PD (*n* = 64, *t = 1.9*, *p =* .06), though this was not significant. They also found that those with ASD met a significantly higher number of PD diagnostic criteria for avoidant, schizotypal, schizoid, paranoid and OC PD types than participants who had OCD in the absence of ASD (*n* = 64, *t* = 2.1, *p* = .036). Interestingly those with the most severe autistic symptoms tended to report fewer PD traits. This concurs with findings reported by Hofvander et al. (2009) and may indicate that lack of insight in those with more severe ASD symptomology renders the use of self-report measures problematic.

1.5 Discussion

1.5.1 Summary of key findings

The evidence from research reviewed here suggests that there is much comorbidity in the two types of disorder. OCPD seems to the most prevalent PD in individuals with a diagnosis of ASD, with Schizoid and Avoidant PD also both occurring frequently in this population (Anckarsäter et al., 2006; Hofvander et al., 2009; Lugnagard et al., 2008; Bejerot et al., 2001). One tentative hypothesis to account for this may be that neurocognitive skills, including attention, empathy and communication are of great importance in the development of 'personality'

and therefore the presence of childhood ASD may impact on the 'typical' development of personality (Anckarsäter et al., 2006).

There is less evidence of comorbid Cluster B PDs being present in ASD populations, though interestingly ASD was found to be comorbid in a female sample with BPD (Rydèn et al., 2008), a finding which warrants further investigation in future studies.

In terms of gender differences, one study found that whilst ASD symptoms were equal in males and females and no difference in PD comorbidity was reported between males and females with ASD (Lugnagard et al., 2008) other symptoms differed, with females showing greater attention to emotional problems, displaying more BPD traits (Rydèn & Bejerot, 2008) and higher comorbidity of Schizoid PD (Hofvander et al., 2009).

1.5.2 Findings regarding similarities/shared features between ASD and PD

A number of similarities were identified between the diagnostic criterion for ASD and PD in the studies reviewed here.

Lugnegård et al. (2012) found similarities in those with Schizoid PD and ASD in terms of social interaction, communication difficulties and stereotyped behaviours. The overlap was so significant that the authors advocate questioning a diagnosis of a 'pure' Schizoid PD in the absence of ASD. They also found that there was overlap with Schizotypal PD criteria, with recurrent hallucinations also being reported in the ASD population.

Restricted behaviour patterns were present in both individuals with OCPD and those with ASD and this was shown in the frequent co-occurrence of these two presentations in several of the studies included in the present literature review (Anckarsäter et al., 2006; Hovander et al., 2009; Lugnegård et al., 2012; Rydén & Bejerot, 2008). Decreased autonomy was also evident in both adults with ASD and those with PD (Hofvander et al, 2009; Lugnegård et al., 2012), whilst Anckarsäter et al. (2006) reported high levels of harm avoidance and low levels of reward dependence in both Cluster A PDs and ASD. Finally, it is important to note that both participants with ASD and those with BPD were shown to present with high levels of suicide risk (Rydén et al., 2008).

Comparison studies have also highlighted similarities in the two types of disorder. Murphy (2003, 2006) reported that those with ASD and PD have similar cognitive profiles with no significant difference being found in FSIQ (WASI-R; Wechsler, 1996), cognitive flexibility or delayed and immediate recall. Furthermore, Wahlund & Kristiansson (2006) found that in a forensic population there were few psychosocial differences in those with ASD and ASPD, with individuals with both disorders presenting with similar education levels, psychiatric history and early criminal behaviour.

1.5.3 Findings regarding differences between ASD and PD

The current literature review was undertaken as the clinical evidence seemed to indicate that there were shared features of individuals with ASD and those with

PD. Based on the findings of the present review, it would seem that there should also be a focus on the differences between the ASD and PD presentations.

Research in the forensic field indicates that those with a diagnosis of ASD are less violent and less impulsive than those with PD (Murphy, 2003; Wahlund & Kristiansson, 2006). In addition these authors found that those with ASD are also significantly less likely to have been intoxicated at the time of the index offence. Rydén et al., (2008) also report that those with ASD are less likely to have substance abuse problems.

Further differences have been identified in tasks of executive function and ToM. Murphy (2006) found that those with ASD performed worse in RET-R and ToM tasks than PD counterparts. This author also reported that whilst there was no significant difference in FSIQ scores between the two groups, those with ASD performed significantly better on certain subtests than PD counterparts. It was also reported that study participants with ASD displayed a higher level reading ability than PD counterparts (Murphy, 2006).

Increased difficulties in social skills, communication and attention switching in ASD compared to PD was also reported (Murphy, 2011). This finding contrasts with findings from Lugnegård et al. (2012), who state that both disorders present with these difficulties. It remains unclear from Murphy's (2011) results whether the PD group had no difficulties in these areas or whether social/communication difficulties were actually present in PD participants but were less severe than in the ASD group. Again this highlights some of the difficulties in drawing

conclusions from individual study findings as well as in making comparisons between findings from the different studies reviewed here.

1.5.4 Methodological limitations of reviewed papers

There were a number of methodological constraints in the studies used in the current review. A number of the studies identified shared participants (Murphy, 2003; 2006; Anckarsäter et al., 2006; Hofvander et al., 2009). It is therefore possible that the data from these studies may be over represented in this review. Consequently findings should be interpreted with caution.

Small sample sizes were common in the reviewed studies, making it difficult to generalise the findings. This is further impacted upon by the specific context of the sample groups with the majority being taken from either forensic settings or psychiatric referral units. The specific nature of the samples also means that findings need to be interpreted with caution as they are unlikely to be generalizable across settings and populations due to selection bias. Moreover, many of the studies lacked a comparison group, again making generalisation to other populations difficult.

The use of different diagnostic criteria as well as assessment tools again makes it difficult to compare findings across studies, as does the use of different populations in a range of studies. Research in this area will be influenced by the diagnostic definitions at the time the study was conducted. There appears to be a developing set of symptoms subject to substantial revision over time in both ASD and PD. It is therefore important to acknowledge that the research studies

reviewed here will have based their work on different diagnostic criteria depending on when the study was conducted. The diagnostic manuals do not allow for a comorbid diagnosis of ASD and PD and this exclusionary criterion was disregarded in some of the studies (Anckarsäter,et al. 2006; Lugnegård et al. 2012) in order to explore the symptomatology overlap between these two disorders.

Some studies used measurements retrospectively in order to provide diagnosis of ASD, as the measures were not designed for retrospective analysis this may call the validity and reliability of diagnosis into question (Anckarsäter,et al., 2006; Lugnegård et al., 2012; Rydèn & Bejerot, 2008). One study also categorised subjects into groups retrospectively on the basis of reports alone (Wahlund & Kristiansson, 2006) which again calls the validity and reliability into question.

Many of the studies used self-report measures rather than clinical interview (Bejerot et al., 2001; Anckarsäter et al., 2006). Evidence suggests that those with ASD often lack insight (Schriber, Robins & Solomon, 2014) into their own presentation and this therefore may have impacted on the findings with those with most severe ASD symptomology having little awareness of their difficulties and therefore underreporting symptoms. This may go some way towards explaining the contrasting findings across some of the studies (Hofvander et al., 2009; Ketelaars et al., 2008; Bejerot et al., 2001).

One paper (Tantam, 1988) was particularly weak, as identified by the quality assessment framework. It is therefore advised that results from this study are

interpreted with caution until the research can be replicated and extended in a manner that provides greater clarity.

1.5.5 Limitations of the present review

The selected studies were restricted to those published in the English language. This criterion may have therefore excluded potentially relevant research published in other languages. In addition the selected studies were all from Western countries (UK, Sweden, Netherlands and France) and therefore may not have requisite external validity in other countries.

Restricting the search criteria to peer-reviewed journals may also have resulted in publication bias. Whilst this was decided to ensure quality of the studies reviewed, non-significant results may have been excluded as a result and therefore the review may over-represent the relationship between ASD and PD's.

Another important limitation of the present review is that only one study explored the relationship of ASD in a PD population. This indicates that the review and the research detailed in the review holds a bias towards PD's in an ASD population that must be acknowledged.

1.5.6 Recommendations for future research

There has been little research into the relationship between ASD and PD and many of the studies in this area involved highly specialised assessments in a specific clinical population and setting. It is therefore probable that some over selection of nonspecific symptoms associated with many diagnostic 'conditions'

may have occurred. Therefore large-scale population based studies as well as further in-depth clinical studies are needed in this fascinating area.

Difficulties have been highlighted in comparing data from the reviewed studies, consequently future research needs to be conducted into areas of overlap between the two types of disorder. This could include comparisons of both cognitive and emotional empathy, further studies in understanding ToM performance, as well as attempting to further clarify the differences and similarities in cognitive profiles. The categorical nature of diagnosis of PD may lead future research towards comparison of these areas in specific PD diagnoses, for example comparing ToM function in those with ASD and BPD or OCPD.

The current review indicates that comorbidity has been shown to be present between ASD and PD. Therefore a greater understanding of the distinct differences and shared features of the two types of disorder is needed. It is therefore recommended that future research address some of the methodological flaws evident in the studies reviewed here by attempting to explore the comorbidity of ASD and PD through the use of clinical interview rather than self-report measures. This is particularly important, given that a lack of insight has been shown to influence the accuracy of self-report measures in those with high levels of ASD symptomology. There has also been little research conducted in PD populations which considers the relationship of PDs with ASD, it is therefore recommended that future studies should be conducted with this sample. Given the discrepancies reported in findings related to gender differences in the current review, it would also be interesting to conduct further

studies on gender differences in the relationship between ASD and PD. Finally, it will also be interesting to see the research findings that arise from the new diagnostic criterion in the DSM-V as these have not been reported to date.

1.5.7 Clinical Implications

Developing a greater understanding of the shared features and areas of overlap between PDs and ASD has a number of clinical implications. Difficulties in mentalizing are common across both disorder types, which Rydèn et al. (2008) suggest may lead to difficulties in being able to think of the possibilities of receiving help. This in turn may lead to an increase in self-harming behaviours and low self-image or anger difficulties. According to findings from Rydèn et al. (2008), individuals who experience comorbid ASD and PD have higher levels of clinical symptoms than those with only one of these presentations and it is important to identify those individuals with a co-occurring ASD and PD as it may influence treatment.

Greater understanding of the commonalities, as well as the differences between the two disorders may inform clinicians regarding whether and when to assess for clinical markers of ASD. For example, in females with BPD, if there is a high rate of suicidal ideation and frequent suicide attempt alongside significant low self-image and no substance abuse, this may be indicative of comorbid ASD.

Absence of a developmental history in a PD assessment makes it difficult to evaluate the exclusion criterion E in the DSM-IV-TR ("The enduring pattern is not better accounted for as a manifestation or consequence of any other mental

disorder") and this may increase the risk of a possible comorbid ASD diagnosis being overlooked in adult psychiatric services. This concern has been raised by a number of the studies reviewed here, with researchers arguing that if ASD is not diagnosed in childhood it may be misdiagnosed as a PD in adulthood (Rydèn & Bejerot, 2008). In a similar vein, Anckarstar et al. (2008) argued that there was a strong likelihood of a primary diagnosis of PD being given in a patient with an undiagnosed neurodevelopmental disorder, though they acknowledge that to some extent this will depend on the theoretical understanding and training of the assessing clinician. There are clearly important implications arising from the findings of shared features between both types of disorder as well as the findings of significant co-presence of both disorders.

Finally, an important clinical implication highlighted by the present review is that categorical PDs provide a non-specific description of the maladaptive patterns of personality function displayed in those with ASD (Hofvander et al., 2009). In adult psychiatric settings obtaining parent report or detailed developmental history of referred individuals is often problematic. This may mean that diagnosis of ASD is often overlooked given the diagnostic overlap in the manuals; it is therefore likely that individuals with an undiagnosed ASD may receive an incorrect diagnosis of PD. It is worth noting the contentious nature of the process of diagnosis of both ASD and PD's as often, particularly with the label of PD, this can be seen as critical of the individual rather than a useful way of understanding their experiences and consequential behaviours in recognising the context which has led them to feel and behave as they do. For the individual patient a re-classification from PD to

ASD will often provide a basis for better understanding the core problems faced by those with social communication impairment (Lugnegård et al., 2012).

1.5.8 Conclusions

Evidence from the reviewed studies indicates that there is considerable diagnostic co-occurrence of the two disorders. OCPD, Schizoid PD and Avoidant PD are the most widely found in those with an existing diagnosis of ASD. Findings of comorbidity in relation to gender difference are less certain with further studies being needed to gain greater clarity. Restricted behaviour patterns are found in both OCPD and ASD as well as difficulties in social interaction and communication difficulties being shown in Cluster A PDs and ASD. Differences have been found in the cognitive profiles and ToM functioning in adults with ASD and PDs as well as offending patterns within forensic populations with these disorders. Due to difficulties in obtaining a detailed developmental history in adults presenting to services and lack of understanding of both the shared and different features of the two types of disorders, allocation of inaccurate and incorrect diagnoses may occur. Therefore a greater understanding of these two types of disorder is needed, with future research in large scale population studies as well as in-depth clinical research being indicated with methodological flaws seen in previous studies being addressed. Finally, despite the fact that the current review was restricted by heterogeneity of focus of the studies conducted in this area, the common finding across the studies reviewed here: that there are high levels of comorbidity, that ASD is often misdiagnosed as PD in adult services and that both types of disorder have shared features, do support the need for the

present review and indicate potential areas for future research to build on the existing empirical evidence.

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Chapter II: Empirical Paper

Investigating the relationship between perceived parenting, personality traits and adult attachment

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2.1 Abstract

The present study investigated the relationships between perceived parenting styles, personality traits and dimensions of adult attachment. An opportunity sample was used which consisted of university students and members of the general population (N = 232; 171 [73.7%] female and 61 [26.3%] male). Participants completed a series of self-report measures including the Big Five Inventory (BFI-44), the Parental Bonding Instrument (PBI) and the Experiences of Close Relationships – revised (ECR-r). Moderation analysis revealed seven explanatory models that accounted for the relationship between perceived parenting, adult attachment avoidance and anxiety, and personality traits. Explanatory models differed for males and females. Personality traits were best accounted for as a moderating factor in the relationship between perceived parenting and adult attachment style. Neuroticism, conscientiousness and agreeableness were the most prominent personality traits, while the relative contribution of these personality traits varied according to gender and adult attachment style. Finally, with regard to perceived parenting, mother's care was most prominent in relation to male adult attachment style, while father's overprotection was most evident in female adult attachment style. Clinical implications of these findings are discussed and directions for future research indicated.

Keywords: adult attachment, personality traits, parenting, moderation

2.2 Introduction

2.2.1 Attachment Theory

It has long been recognised that certain parental behaviours are associated with a number of adverse psychosocial sequelae for the child that may be present throughout childhood and can persist into adult life (Parker et al., 1999). In his attachment theory, Bowlby (1977) suggested that the central tasks of parenting are the provision of a secure base and the encouragement of exploration. One of the key elements of the developmental approach of attachment is its proposal that early experiences with primary care-givers influence the development of the self and future close relationships (Laulik et al., 2013).

Ainsworth et al. (1978) identified three attachment styles in childhood: secure, avoidant, and anxious-ambivalent. Bowlby (1973) proposed that 'internal working models' of the self and others are formed by an infant through repeated transactions with attachment figures. These internal representations subsequently form a heuristic basis for later relationships. An expectation about one's own role in relationships is developed from these early interactions. Insecure attachments are typically formed when an infant whose needs are not consistently met by the caregiver may construe themselves as unworthy of the attention of others and powerless to influence their behaviour. Conversely, a securely attached infant experiences caring and responsive caregivers which allows the child to develop representations of themselves as worthy of love and of others as caring. These models, developed in infancy, of the self and others, serve as a template for later relationships and lay down the foundations for the

assumptions and beliefs about the self and how others will behave (Bowlby, 1969). It has been found that later relationship problems can be as a consequence of insecure attachment patterns (Haggerty, Hilsenroth, & Vala-Stewart, 2009).

2.2.2 Parental bonding and adult attachment style

Bowlby's theory of attachment emphasises the influence of relationships with early care-givers on later attachment style (Bowlby, 1988). It therefore seems logical to assume that experiences of parental rearing behaviours will have an effect on attachment style in adulthood. Adult attachment theory is an extension of this work (Fraley & Shaver, 2000) and aims to explain the differences that individuals experience in thoughts, feelings and behaviours throughout adolescence and adulthood in relation to intimate relationships and close friendships. Research has demonstrated that attachment style is linked to mental processes, behaviours and outcomes of close relationships (Mikulincer & Shaver, 2007).

Mikulincer and Shaver (2007) propose two types of behavioural strategies that are associated with the perception of poor caregiving in childhood and later insecure patterns of attachment. Firstly they suggest hyper-activating strategies. These include becoming controlling, overly dependent or clingy behaviour in an attempt to gain more attention from the attachment figure or to prevent emotional or physical separation. Secondly they propose deactivating strategies. These often result in emotional contact with others being minimised as a way to

get one's own personal needs met whilst still maintaining a position of self-reliance.

Attachment theory does not however, consider insecure attachment patterns to be psychopathological, as they are thought to be realistic adaptive responses to the environments in which they arise (Crittenden, 1999). Insecure attachment behaviour can be viewed as patterns of affect regulation and information processing that developed in order to protect the individual from attachment-related pain. Whilst functional in this respect, it is argued that these patterns may stand in the way of happiness and adjustment in future relationships (Daniel, 2006).

Hazan and Shaver (1987) were the first to develop a self-report measure of adult attachment patterns. They found that more securely attached individuals reported their experience of early parenting more positively than insecurely attached adults. This finding is supported by a comprehensive literature review (Mikulincer & Shaver, 2007) which concluded that negative descriptions of early parenting corresponded with either high attachment related anxiety or attachment avoidance in adulthood. More recently it has been found that authoritative parenting is positively associated with secure attachment style (Maddahi et al., 2012), while negligent parenting is positively associated with avoidant attachment in adulthood (Karavasilis, Doyle & Markiewicz, 2003). These studies lend some support to the argument that the ability to form secure attachments in later life may be influenced by the individual's experience of parenting.

Adult attachment styles can be conceptualised as either continuous or categorical variables. Data gathered from self-report measures can provide categorical classifications based on the four-factor model by Bartholomew & Horowitz (1991). This categorical model uses the anxiety rating as representation of self and the avoidance rating as representation of others (Figure 2.1). It is however worth noting that using a classification approach to adult attachment as proposed by Bartholomew and Horowitz (1991) requires continuous scores to be converted into categorical variables and it is more accurate to measure adult attachment dimensionally (Brennan, Clark & Shaver, 1998). Therefore it is recommended that a continuous approach to the measurement of adult attachment is utilised (Fraely & Waller 1998).

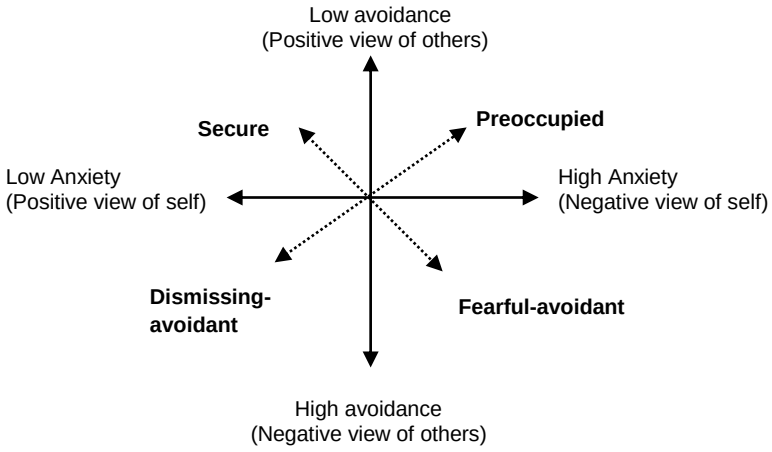

Figure 2.1. Diagrammatic interpretation of the four attachment styles proposed by Bartholomew and Horowitz (1991) from the dimensions of anxiety and avoidance

2.2.3 Parental bonding and personality traits

Avagianou and Zafiropoulou (2008) state that Bowlby's attachment theory is not just a theory of normal development and psychopathology, it is also a personality

theory. In recent years there has been considerable interest in the effect of parental behaviours and personality disorders. However, less is known about the relationship between parenting behaviour and more fundamental personality dimensions (Reti et al., 2002). Given that normal personality traits have been shown to be associated dimensionally with personality disorders (Costa & Widiger, 2001), it is important that we develop a greater understanding of the role of personality traits in adult attachment and mental health.

The five-factor model of personality (FFM) proposes that differences on five major dimensions of personality account for personality variation within normal limits (Caruso & Cliff, 1997). These five factors have been labelled as Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness (Costa & McRae, 1988). According to Ulu and Tezer (2010) neuroticism is the likelihood to experience emotional distress, whilst extraversion refers to sociability and potential for excitement. Openness to experience refers to the individual's levels of curiosity and sophistication, while agreeableness contains aspects of compassion and generosity. Finally, conscientiousness includes characteristics of accomplishment and responsibility.

Reti et al. (2002) conducted a study in a large community sample using the Parental Bonding Instrument and the FFM to explore the influences of parenting on normal personality traits. These authors found moderately significant correlations between the experiences of parenting and measures of normal personality. Specifically, they found maternal care to be more strongly correlated with neuroticism in both males and females, agreeableness in females and

conscientiousness in males. Based on these findings they proposed that the role of parenting in later personality disorders may be mediated by associations between parenting and normal personality traits.

This concurs with findings from another study by Schelette et al. (1998) which used the Assessment of Parental Experiences measure and the Temperament and Character Inventory (TCI) and found that parental childrearing influenced the personality traits of healthy subjects, especially in relation to Harm Avoidance and Self-directedness.

There were a number of methodological weaknesses with both of these studies, including age of participants, complications of Axis 1 disorders and environmental factors not being controlled for. The use of cross-sectional designs with correlational analysis implied it was not possible to maintain that parental rearing behaviours are true determinates of personality traits. However, these studies show that there is a growing body of evidence that parenting behaviour has some influence on personality development.

2.2.4 Personality traits and adult attachment style

The "Big Five" personality traits (Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness) have emerged as an overarching, empirically grounded framework capturing major between-person differences in personality (John & Srivastava, 1999).

Previous research has found that those with either anxious and avoidant adult attachment styles scored higher on measures of depression and anxiety (Hazan & Shaver, 1990) than securely attached adults. Drawing on this finding, John and Srivastava (1999) hypothesised that high scores on either anxious or avoidant attachment styles in adults would be correlated with neuroticism on the Big 5. They also hypothesised that those with more secure adult attachment styles would score more highly on the scales of extroversion and agreeableness traits whereas those with avoidant adult attachment styles would be less likely to show Openness to Experiences. Their findings supported these hypotheses, though it is worth noting that they used categorical classifications of adult attachment rather than continuum measures as recommended elsewhere in the literature (Fraely & Waller, 1998).

Adult attachment styles have also been shown to be associated with other measures of personality, such as the Temperament and Character Inventory (TCI) (Takeuchi et al., 2011), with harm avoidance traits being positively correlated with novelty seeking and cooperativeness. In contrast, anxious/avoidant adult attachment style was found to be positively correlated with harm avoidance and negatively correlated with self-directedness (Takeuchi et al., 2011).

2.2.5 Gender differences

Only a few studies have explored gender differences in studies of the relationship between either adult attachment or personality traits and perceived parental bonding.

Matsuoka et al. (2006) looked at the gender differences in relation to experiences of parental bonding and adult attachment style in a large community sample in Japan. They reported that perceptions of paternal care predicted adult attachment security in males and females, while perceptions of maternal care predicted attachment security only in females. Low maternal protection predicted secure adult attachment in males, while paternal protection showed little predictive power. This indicates that the sex differences of both parents and participants may be another influencing factor in the relationship between parental bonding and adult attachment.

Focussing on personality traits, Reti et al. (2002) considered the importance of parental bonding in relation to personality traits in a large community sample in the USA. They found that perceived maternal care among females was more important than perceived paternal care in relation to the personality factors of neuroticism, agreeableness and conscientiousness. In contrast, maternal protection amongst males appeared to be more important than paternal protection in traits of neuroticism and conscientiousness in males. Here again, sex differences in parents and participants appear to play a role in the relationship between parental bonding and personality traits.

2.2.6 The present study

Daniel (2006) suggested that an important impetus for the incorporation of the idea of adult attachment into clinical psychology is the growing number of studies showing a connection between insecure attachment patterns and psychological

problems. Given the growing body of evidence that perceived parenting influences both adult attachment style and personality development, it is perhaps surprising that the relationship between these factors of individual difference have not previously been explicitly explored together. Cooper (2002) similarly highlights the importance of integrating the relationship aspect into personality psychology research, arguing that the study of personality within important relationship contexts is a crucial direction for future research. Additional support for the need for such research comes from Zayas, Shoda and Ayduk (2002), who argue that certain behaviours relating to personality emerge from interactions in a relational context rather than from innate individual qualities alone.

It is widely accepted that early childhood experience of caregiving is associated with attachment style in adulthood, however little is known about the interaction of personality with this relationship. The work of John and Srivastava (1999) investigate whether attachment style in close relationships in adulthood might be predictors of personality traits. They found that neuroticism correlated positively with insecure attachment. Given that personality is a dynamic, rather than a static trait, the present study will build on this finding by examining whether or not personality traits may have a moderating effect on the relationship between perceived parenting and adult attachment style.

The present study will be able to contribute to existing knowledge of the effects of different perceptions of early parental bonding on later attachment style, specifically anxious and avoidant types and to explore the potential moderating

effects of personality traits. The present study also seeks to extend understanding of these relationships through investigating both the maternal and paternal influences in early experiences on both males and females in relation to adult attachment and personality traits in line with findings by Matsuoka et al. (2006) and Reti et al. (2002).

Much of the existing research in this area has used clinical samples, with the focus being to gain a better understanding of the relationship on adult attachment style, personality patterns and psychopathology. The present study seeks to further understanding of the relationship between personality traits and adult attachment style in the absence of complex clinical presentations. Measures such as the ECR-r are specifically designed for use with nonclinical populations and are therefore useful in terms of assessing propensity towards pathology without the confounding effects of psychopathology itself (Tiliopoulos & Goodall, 2009). In addition, it is hoped that exploring the potential moderating effects of normal personality traits on the relationship between perceptions of parental bonding and adult attachment style will further inform the development of both personality and attachment theory without pathologising either element of development.

2.2.7 Aims

The aim of the study was to investigate the relationship between perceptions of parental care in childhood, adult attachment style and personality traits within a non-clinical population.

This study appears to be the first to explore the interactional effect of personality traits on attachment, therefore the present study is largely exploratory in nature. Given the exploratory nature of the study, it is difficult to predict accurately which specific aspects of each construct will be related to one another. However, it was possible to make the following hypotheses based on a review of the existing empirical evidence in this area.

Hypothesis 1. Perceptions of poor parenting, as demonstrated by low levels of care and high levels of overprotection, will be positively associated with more anxious and avoidant attachment styles in adulthood.

Hypothesis 2. Gender differences in relation to perceptions of parenting and adult attachment will be found.

Hypothesis 3. The relationship between perceptions of parental bonding and insecure adult attachment will be moderated by more pathological personality traits, such as neuroticism.

Hypothesis 4. Differences will be found in the personality traits that moderate the relationship between parental bonding and insecure adult attachment in males and females.

2.3 Method

2.3.1 Participants

An opportunity sample comprising members of the general public and university students (*N* = 232) participated in the study. In total 171 (73.7%) females and 61 (26.3%) males completed the measures. Table 2.1 shows the participant demographics.

Table 2.1.

Participant demographics

	Female	Male
Age (range; mean; SD)	18-75 years; 25.99 years; 11.31 years	18 to 69 years; 28 years; 13.62 years
Relationship Status: (*n*, %)		
Single	*n*=86; 50.3%	*n*=27; 44.3%
Casual / open relationship	*n*=1; 0.6%	*n*=1; 1.6%
Committed relationships	*n*=58; 33.9%	*n*=19; 31.1%
Married or in a civil partnership	*n*=24; 14%	*n*=14; 23%
Divorced	*n*=1; 0.6%	
Widowed	*n*=1; 0.6%	
Duration of relationship (range; mean; SD)	0 weeks - 59 years; 3 years 6 months; 6 years 10 months	0 weeks - 38 years; 5 years 3 months; 9 years 3 months
Raised by: (*n*, %)		
Both parents together	*n*=131, 76.6%	*n*=41, 67.2%
Just mother	*n*=19; 11.1%	*n*=9; 14.8%
Just father	*n*=4; 2.3%	*n*=1; 1.6%
Combination of above	*n*=16; 9.4%	*n*=9; 14.8%
Someone other than their parents	*n*=1; 0.6%	*n*=1; 1.6%

2.3.2 Design and measures

A cross-sectional, correlational analytic survey design was adopted. Adult attachment was the independent variable with perceived parenting style and personality traits as the predictor variables. Each variable was measured as follows:

2.3.2.1 Adult Attachment

Experiences in Close Relationships – Revised (ECR-R; Fraley, Waller & Brennan, 2000)

The ECR-R is a self-report measure of current attachment style. This 36 item measure consists of two sub-scales, anxiety (of abandonment) and avoidance (of intimacy). Items are rated using a 7-point likert scale, from *strongly agree* to *strongly disagree.* Fourteen items are reverse scored. Once interpreted, scores from the ECR-R provide a two dimensional model of adult attachment. The anxiety sub-scale provides a continuum of positive to negative views of oneself. The avoidance sub-scale represents a continuum of positive to negative views about others. Higher scores on each sub-scale indicate more negative views. The ECR-R allows for attachment styles to be represented as either categorical or continuous variables. The ECR-R has been found to have good internal consistency, $\alpha = .81$ for both sub-scales (Fraley, et al., 2000). Sibley, Fischer & Liu (2005) also report good convergent and discriminant validity. This questionnaire takes approximately 5 minutes to complete.

2.3.2.2 Perceived Parenting Styles

Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979)

The PBI is a retrospective measure of perceived parenting during the first 16 years, designed to be completed by an adult population. The PBI contains 25 items, each being rated on a four-point likert scale ranging from *very like (3)* to *very unlike (0)*. Participants rate each parent separately. The measure provides two sub-scales, *care* and *over-protection.* The care sub-scale contains twelve items and the over-protection sub-scale thirteen items. Twelve of the items over both sub-scales are reverse scored. Once scored the PBI provides a four dimensional model of parental bonding as well as individual care and over-protection scores. The four quadrants are 'affectionate constraint' (high care and high protection), 'affectionless control' (high protection and low care), 'optimal parenting' (high care and low protection) and 'neglectful parenting' (low care and low protection).

McKinnon et al. (1989) report that the PBI has good test retest reliability and high internal consistency. Parker (1989) reports the following Cronbach's alphas for internal consistency reliability range from 0.89 to 0.91 for the parental care scale and from 0.83 to 0.88 for the parental overprotection scale suggesting adequate internal consistency and homogeneity of variance more marked for the care scale. Construct validity is also reported to be robust across a number of studies (Parker, 1989). This questionnaire takes approximately five to ten minutes to complete.

2.3.2.3 Personality Traits

The Big Five Inventory – 44 (BFI-44; John, Donahue & Kentle, 1991)

A number of inventories have been developed in order to provide measures of the five factor personality model (Young & Schinka, 2001). The BFI – 44 is a 44 item measure of the five factor personality model. The measure includes phrases which are based on the adjectives demonstrated to be pro-typical of each of the five dimensions of personality. The BFI-44 uses a five-point likert scale ranging from disagree strongly (1) to agree strongly (5). The scale provides five sub-scales of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness. The Extraversion and Neuroticism scales contain eight items, three of which are reversed scored. The Agreeableness and Conscientiousness scales contain nine items, four of which are reversed scored. The Openness scale contains ten items, two of which are reversed scored. Once scored the BFI-44 provides mean scores for each of the five measured personality traits. The BFI-44 has been found to have alpha reliabilities ranging from .75 to .90. Three-month test-retest reliabilities range from .80 to.90, with a mean of .85. There are substantial convergent and divergent associations with other Big Five instruments providing evidence of validity (John & Srivastava, 1999). This questionnaire takes approximately five to ten minutes to complete.

2.3.3 Procedure

Ethical approval was applied for and granted by Coventry University Ethics Committee (see appendix 3). Questionnaires were anonymously completed in

one of two ways, a printed pack or through an online survey. The online survey was created and stored via Bristol online Surveys which provides a secure server enabling development and storage of quantitative surveys and completed data. Thirty six percent (*n* = 83) of the population were a community sample who completed the questionnaires via the online survey. The remaining 64% (*n* = 149) of the sample were university students who all completed the questionnaires using a printed pack. No identifiable information was stored in the same location and raw datasets were stored on a password protected file during the study time.

Material was presented to participants in the following order, participant information about the study, informed consent, demographic information, BFI, ECR-R, PBI and debriefing information (see appendix 4). Undergraduate students from Coventry University who were involved in the University research scheme were awarded research credits for their participation in the study. These research credits allow access to university students as potential participants in their own planned research project.

2.3.4 Data Analysis

The data were analysed using SPSS v.22. Frequency analysis was conducted to cleanse the data. Ten percent of the data was then checked to ensure accuracy. In order to test the hypotheses, regression and moderation analyses were performed. Linear regression was used initially for exploratory data analysis. Data were inspected to determine whether they were satisfactory for this analysis. Histograms revealed that there was normality of residuals and

scattergrams indicated that there was no heteroscedasticity and independency of residuals. There was linearity of relationship between the dependant variables and the predictor variable. Finally, variance inflation factors indicated that there was not excessive multicollinearity. Cook's D indicated that there were two outliers beyond three standard deviations and these were excluded. Having established that the data met the required assumptions, the sample was divided by sex to conduct the analyses. Beta coefficients were required to be above .1 which was indicative of a minimal small effect size (Cohen, 1992) and significance with alpha set at p =.05.

The relationship between the dependent variable, adult attachment and the independent variable, perceived parenting was analysed first. Independent variables with the lowest effect size (beta coefficient) were systematically removed one by one until the remaining variables met the significance levels.

This procedure was repeated with adult attachment as the dependent variable and personality traits as the independent variable. Finally the relationships between each identified personality trait, as the dependent variable and each identified perceived parenting style, as the independent variable was analysed. Personality traits that did not show a significant relationship with perceived parenting styles were then removed from the model.

Models were produced only when parenting style variables and factors in the Big Five Personality Traits were significantly related to adult attachment style. This produced four linear regression models. Moderation analysis, performed with

SPSS v.22 using a macro developed by Hayes (2013), was then utilised to determine at which point the levels of personality trait were moderating the relationship between perceived parenting style and adult attachment type. Personality levels were considered to be low, medium or high.

2.4. Results

Seven moderation models were produced for adult attachment avoidance and anxiety in males and females moderated by personality traits of agreeableness, neuroticism and conscientiousness. Dimensions of anxiety and avoidance correlated: males $r = 0.580$, females $r = 0.630$. Fraley et al. (2011) state that this is common in measures of adult attachment. A summary of model fit was produced for each moderation model (see appendix 5).

2.4.1. Model of Male Anxious Attachment

Moderation analysis revealed that there was a significant negative relationship between mother's care and anxious attachment in males: $b = -.630$ (95% CI = -1.17 – -0.09), $t_{(55)} = 2.33$, $p = .023$. There was also a significant positive relationship between neuroticism and anxious attachment: $b = 1.382$ (95% CI = 0.45 – 2.31), $t_{(55)} = 2.97$, $p = .004$. However, the interaction between mother's care and neuroticism did not have a significant effect on anxious attachment: $b = -.058$ (95% CI = -0.14 – 0.02), $t_{(55)} = 1.40$, $p = .167$. Further inspection of simple slopes revealed that the relationship between mother's care and anxious attachment was significant when levels of neuroticism were high ($b = -.982$, 95% CI = -1.72 – -0.24, $t = 2.66$, $p = .001$) and medium ($b = -.630$, 95% CI = -1.17 – -

0.10, t = 2.33, p = .023) but not when they were low (b = -.277, 95% CI = -1.02 – 0.46, t = 0.75, p = .455). Figure 1 shows the negative relationship between the perception of mother's care (i.e. perception of provision of a nurturing and affectionate environment) and levels of anxious attachment. As predicted, greater perceived care predicts less anxious attachment in male participants. Medium and high levels of neuroticism moderate the relationship between perceived maternal care and male anxious attachment.

There was a significant model fit F (3, 55) 6.89, p < .001, R^2 = .32 showing that 32% of the variance in scores on male anxious attachment was accounted for by the variables of mother's care and neuroticism.

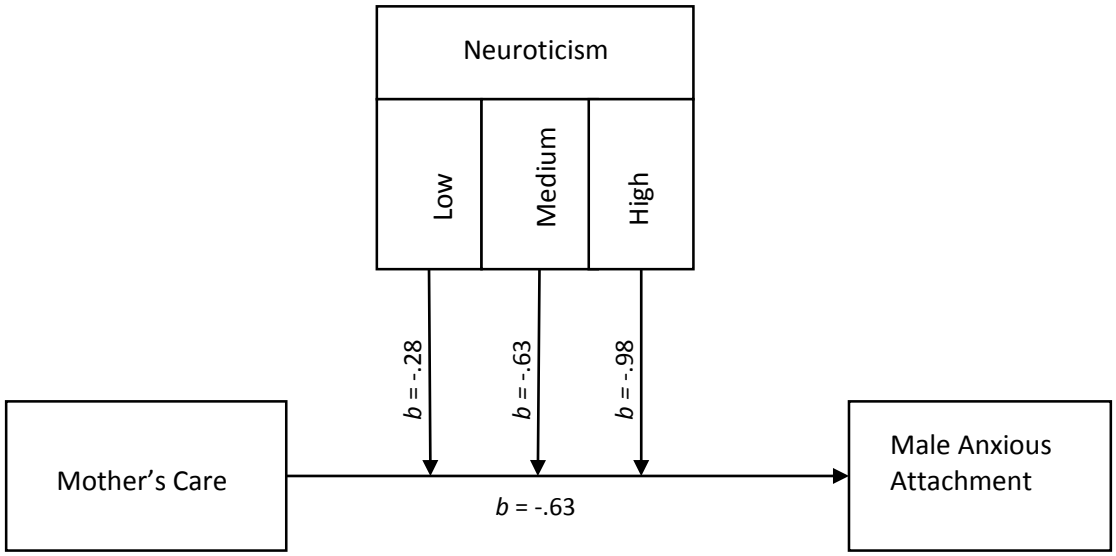

Figure 2.2. Male anxious attachment model moderated by levels of Neuroticism.

2.4.2. Model of Male Avoidant Attachment

Moderation analysis was also performed on the relationship between male's mother's care and avoidant attachment moderated by agreeableness. This

analysis revealed that there was a significant negative relationship between mother's care and avoidant attachment: b = -.780 (95% CI = -1.44 – -0.12), $t_{(55)}$ = 2.39, p = .021. There was also a significant negative relationship between agreeableness and avoidant attachment: b = -1.657 (95% CI = -2.79 – -0.53), $t_{(55)}$ = 2.94, p = .005. However, the interaction between mother's care and agreeableness did not have a significant effect on avoidant attachment: b = -.003 (95% CI = -0.141 – 0.134), $t_{(55)}$ = 0.05, p = .961. Further inspection of simple slopes revealed that the relationship between mother's care and avoidant attachment was significant when levels of agreeableness were high (b = -.762, 95% CI = -1.38 – -0.14, t = 2.47, p = .017) and medium (b = -.780, 95% CI = -1.44 – -0.12, t = 2.39, p = .021) but not when they were low (b = -.799, 95% CI = -2.07 – 0.47, t = 1.26, p = .212). Figure 2 shows the negative relationship between the perception of mother's care and levels of avoidant attachment. As predicted, greater perceived care predicts less avoidant attachment style in male participants. However, contrary to expectations, high and medium levels of agreeableness moderate the relationship between mother's care and male avoidant attachment.

There was a significant model fit F (3, 55) 13.88, p < .001, R^2 = .32 showing that 32% of the variance in scores on male avoidant attachment was accounted for by the variables of mother's care and agreeableness.

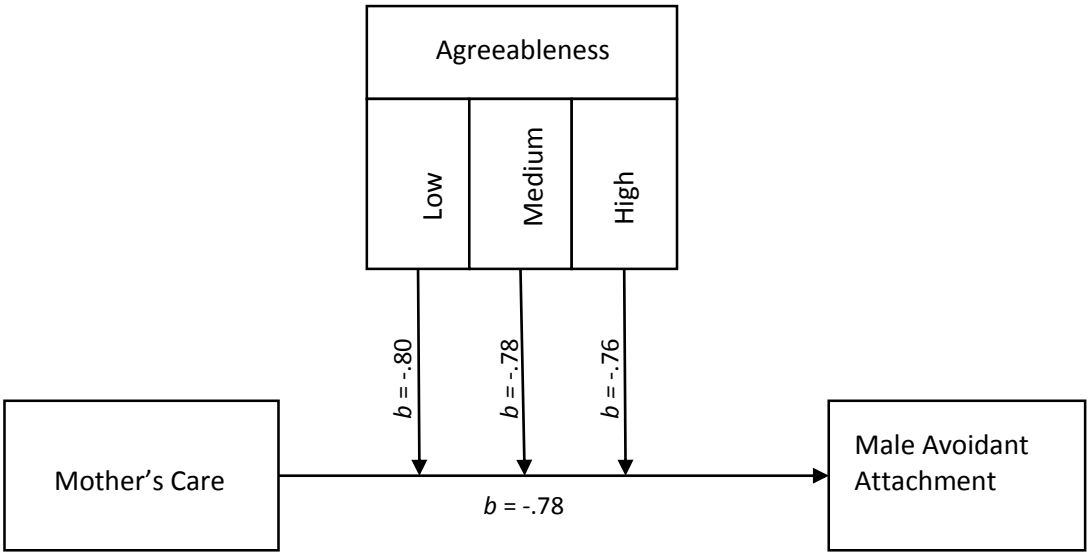

Figure 2.3. Male avoidant attachment model moderated by levels of Agreeableness.

2.4.3. Model of Female Anxious Attachment

Moderation analysis was also performed on the relationship between female's perception of father's over-protection and anxious attachment moderated by agreeableness, conscientiousness and neuroticism.

2.4.3.1 Female Anxious Attachment and Agreeableness

This analysis revealed that there was a significant positive relationship between father's over-protection and anxious attachment: $b = 0.985$ (95% CI = 0.51 – 1.46), $t_{(151)} = 4.065$, $p < .001$. There was also a significant negative relationship between agreeableness and anxious attachment: $b = -1.239$ (95% CI = -1.85 – -0.63), $t_{(151)} = -3.99$, $p < .001$. However, the interaction between father's over-protection and agreeableness did not have a significant effect on anxious attachment: $b = 0.038$ (95% CI = -0.03 – 0.11), $t_{(151)} = 1.04$, $p = .301$. Further inspection of simple slopes revealed that the relationship between father's over-protection and anxious

attachment was significant when levels of agreeableness were low (*b* = 0.783, 95% CI = 0.25 – 1.31, *t* = 2.92, *p* = .0041), medium (*b* = 1.186, 95% CI = -.50 – 1.87, *t* = 3.42, *p* < .001) and high (*b* = .985, 95% CI = 0.51 – 1.46, *t* = 4.06, *p* < .001) however the curvilinear effect deemed the interaction non-significant. Figure 3 shows the positive relationship between the perceptions of father's over-protection female anxious attachment. This form of attachment is contributed to by the perception of an over protective father who did not give the opportunity to develop a sense of independence or confidence. Higher levels of perceived paternal overprotection predicted higher levels of adult anxious attachment style in female participants. Agreeableness moderated the relationship between father's over-protection and female anxious attachment, with a stronger effect being seen in the mid-range of this personality trait, indicating that female participants with either high or low levels of agreeableness are less anxiously attached.

There was a significant model fit *F* (3,151) 16.58, *p* < .001, R^2= .23 showing that 23% of the variance in scores on female anxious attachment was accounted for by the variables of father's over-protection and agreeableness.

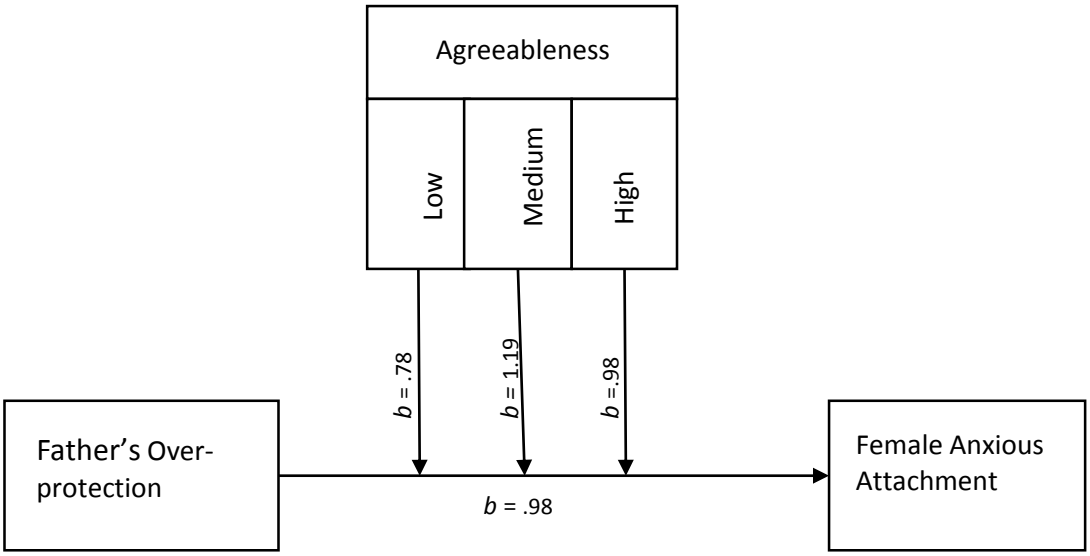

Figure 2.4. Female anxious attachment model moderated by levels of Agreeableness.

2.4.3.2. Female Anxious Attachment and Conscientiousness

This analysis revealed that there was a significant positive relationship between father's over-protection and adult anxious attachment: b = 1.110 (95% CI = 0.66 – 1.56), $t_{(151)}$ = 4.86, $p < .001$. There was also a significant negative relationship between conscientiousness and anxious attachment: b = -.754 (95% CI = -1.30 – -0.21), $t_{(151)}$ = -2.71, p = .007. However, the interaction between father's over-protection and conscientiousness did not have a significant effect on anxious attachment: b = 0.024 (95% CI = -0.07 – 0.12), $t_{(151)}$ = .51, p = .612. Further inspection of simple slopes revealed that the relationship between father's over-protection and anxious attachment was significant when levels of conscientiousness were low (b = 0.973, 95% CI = 0.21 – 1.73, t = 2.53, p = .013), medium (b = 1.247, 95% CI = .62 – 1.88, t = 3.92, p < .001) and high (b = 1.110, 95% CI = 0.66 – 1.56, t = 4.86, p < .001) however the curvilinear effect deemed the interaction non-significant. Figure 4 shows the positive relationship between

the perceptions of father's over-protection female anxious attachment. Conscientiousness moderated the relationship between father's over-protection and female anxious attachment, with a stronger effect being seen in the mid-range of this personality trait. As the initial relationship between conscientiousness and anxious attachment was found to be negative (b = -.754 (95% CI = -1.30 – -0.21), $t_{(151)}$ = -2.71, p = .007.), this indicated that those that have high or low levels of conscientiousness were more anxiously attached.

There was a significant model fit F (3,151) 12.32, p < .001, R^2= .19 showing that 19% of the variance in scores on female anxious attachment was accounted for by the variables of father's over-protection and conscientiousness.

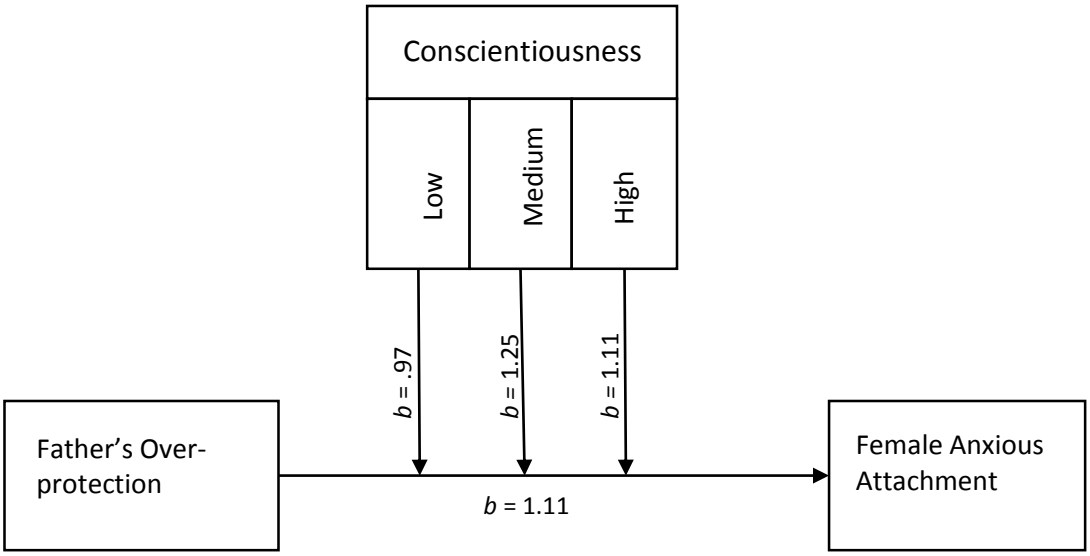

Figure 2.5. Female anxious attachment model moderated by levels of Conscientiousness.

2.4.3.3. Female Anxious Attachment and Neuroticism

This analysis revealed that there was a significant positive relationship between father's over-protection and anxious attachment: b = .834 (95% CI = 0.41 – 1.26),

$t_{(151)}$ = 3.88, p < .001. There was also a significant positive relationship between neuroticism and anxious attachment: b = 1.512 (95% CI = -1.10 – 1.93), $t_{(151)}$ = -7.20, p < .001. However, the interaction between father's over-protection and neuroticism did not have a significant effect on anxious attachment: b = 0.038 (95% CI = -0.02 – 0.09), $t_{(151)}$ = 1.37, p = .173. Further inspection of simple slopes revealed that the relationship between father's over-protection and anxious attachment was significant when levels of neuroticism were medium (b = 1.086, 95% CI = .60 – 1.57, t = 4.45, p < .001) and high (b = .837, 95% CI = 0.41 – 1.26, t = 3.88, p =< .001) but not when they were low (b = 0.589, 95% CI = -0.03 – 1.21, t = 1.87, p = .062). Figure 5 shows the positive relationship between the perceptions of father's over-protection female anxious attachment again the more overprotective fathers were perceived to be, the more anxious the adult attachment in females. Medium and high levels of neuroticism moderate the relationship between father's overprotection and female anxious attachment. These findings were in line with expectations.

There was a significant model fit F (3,151) 40.03, p < .001, R^2 = .33 showing that 33% of the variance in scores on female anxious attachment was accounted for by the variables of father's over-protection and neuroticism.

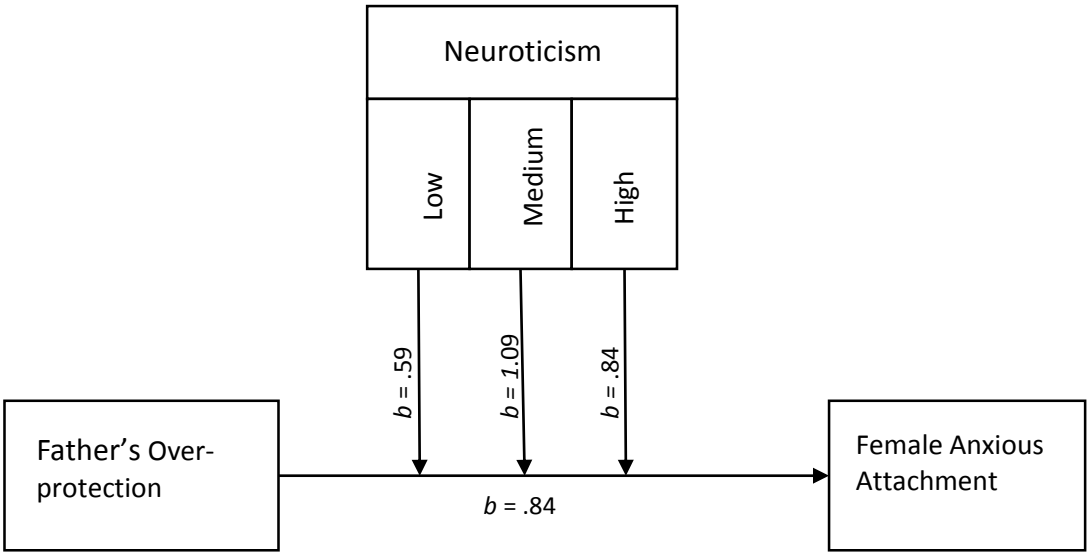

Figure 2.6. Female anxious attachment model moderated by levels of Neuroticism.

2.4.4. Model of Female Avoidant Attachment

Moderation analysis was also performed on the relationship between female's perception of father's over-protection and avoidant attachment moderated by agreeableness and conscientiousness.

2.4.4.1. Female Avoidant Attachment and Agreeableness

This analysis revealed that there was a significant positive relationship between father's over-protection and avoidant attachment: b = 0.729 (95% CI = 0.16 – 1.29), $t_{(151)}$ = 2.55, p = .012. There was also a significant negative relationship between agreeableness and avoidant attachment: b = -0.968 (95% CI = -1.71 – -0.22), $t_{(151)}$ = -2.56, p = .012. However, the interaction between father's over-protection and agreeableness did not have a significant effect on avoidant attachment: b = 0.022 (95% CI = -0.068 – 0.11), $t_{(151)}$ = 0.49, p = .628. Further inspection of simple slopes revealed that the relationship between father's over-protection and avoidant attachment was significant when levels of agreeableness

were low (b = 0.611, 95% CI = 0.03 – 1.19, t = 2.09, p = .039), medium (b = .848, 95% CI = -.03 – 1.73, t = 1.91, p = .058) and high (b = .729, 95% CI = 0.16 – 1.29, t = 2.55, p = .012) however the curvilinear effect deemed the interaction non-significant. Figure 6 shows the positive relationship between the perceptions of father's over-protection female avoidant attachment. Agreeableness moderated the relationship between father's over-protection and female anxious attachment, with a stronger effect being seen in the mid-range of this personality trait, indicating that those that have high or low levels of agreeableness are less avoidant in their adult attachment style.

There was a significant model fit F (3,151) 8.02, p < .001, R^2 = .15 showing that 15% of the variance in scores on female avoidant attachment was accounted for by the variables of father's over-protection and agreeableness.

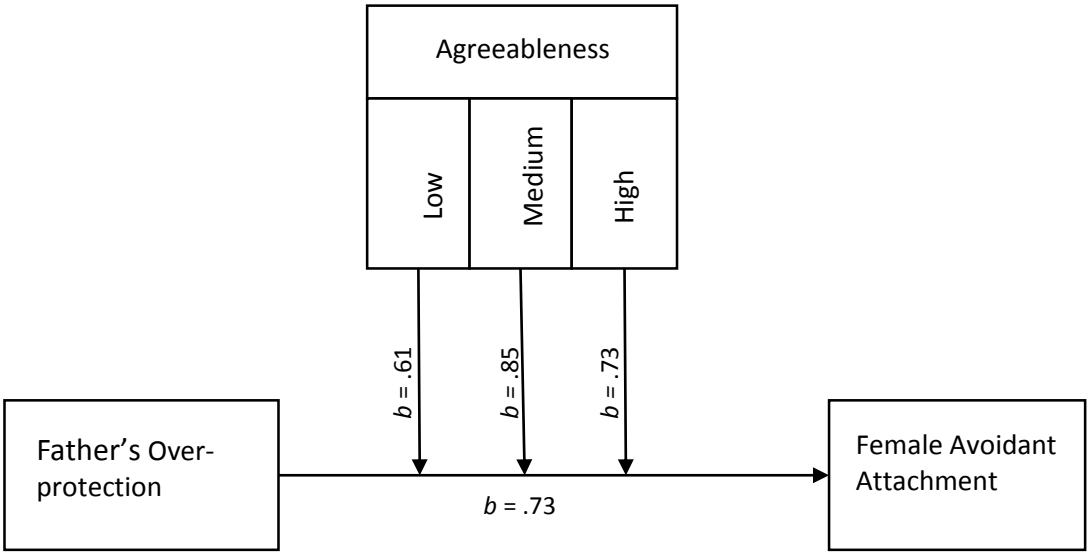

Figure 2.7. Female avoidant attachment model moderated by levels of Agreeableness.

2.4.4.2. Female Avoidant Attachment and Conscientiousness

This analysis revealed that there was a significant positive relationship between father's over-protection and avoidant attachment: b = 0.819 (95% CI = 0.34 – 1.29), $t_{(151)}$ = 3.41, p < .001. There was also a significant negative relationship between conscientiousness and avoidant attachment: b = -.984 (95% CI = -1.48 – -0.49), $t_{(151)}$ = -3.92, p < .001. However, the interaction between father's over-protection and conscientiousness did not have a significant effect on avoidant attachment: b = -0.014 (95% CI = -0.091 – 0.064), $t_{(151)}$ = -0.35, p = .729. Further inspection of simple slopes revealed that the relationship between father's over-protection and avoidant attachment was significant when levels of conscientiousness were low (b = 0.896, 95% CI = 0.30 – 1.49, t = 2.99, p = .003), medium (b = .741, 95% CI = -.04 – 1.44, t = 2.09, p = .039) and high (b = .819, 95% CI = 0.34 – 1.29, t = 3.41, p < .001) however the curvilinear effect deemed the interaction non-significant. Figure 7 shows the positive relationship between the perceptions of father's over-protection and female avoidant attachment. Conscientiousness moderated the relationship between father's over-protection and female anxious attachment, with a weaker effect being seen in the mid-range of this personality trait as there was a negative relationship between conscientiousness and avoidant attachment (b = -.984 (95% CI = -1.48 – -0.49), $t_{(151)}$ = -3.92, p < .001.), this indicated that females who had high or low levels of conscientiousness were more avoidant in their adult attachment style.

There was a significant model fit F (3,151) 10.79, $p < .001$, $R^2 = .16$ showing that 16% of the variance in scores on female avoidant attachment was accounted for by the variables of father's over-protection and conscientiousness.

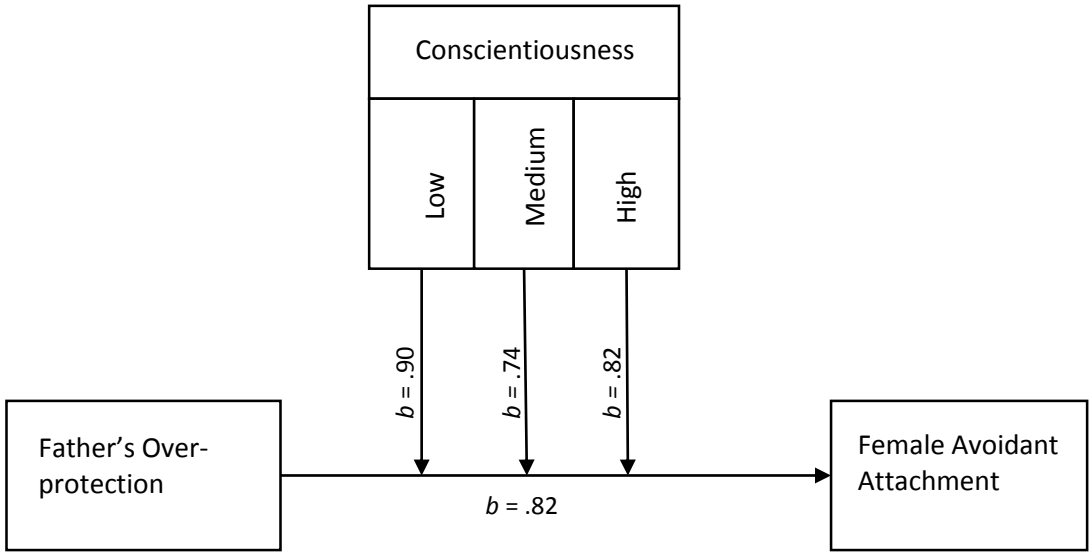

Figure 2.8. Female avoidant attachment model moderated by levels of Conscientiousness.

2.5 Discussion

The present study sought to examine the relationship between perceptions of parental bonding, adult attachment style and personality traits in a community population and undergraduate sample. The study was largely exploratory in nature due to a dearth of studies looking at these three factors together. The moderating effects of personality traits on dimensions of adult attachment and parental bonding were used to produce seven models. Four a-priori hypotheses were tested.

2.5.1 Attachment style

As predicted and in keeping with findings by Mikulincer and Shaver (2007) perceptions of poor parenting were found to be related to both anxious and avoidant attachment styles in adulthood. Interestingly, perceptions of low maternal care were strongly linked to both anxious and avoidant attachment in males whilst high levels of paternal overprotection were most influential in both avoidant and anxious attachment styles in females. These findings were contrary to previously reported findings by Matsuoka et al. (2006) who reported that paternal protection showed little predictive power for either males or females with paternal care predicting attachment security in both males and females. They also reported that maternal care predicted attachment security only in females and low maternal protection predicted secure attachment in males.

Matsuoka et al. (2006) gathered data from a sample of Japanese college students and it is possible that the cultural differences may contribute somewhat to the anomalies found in the findings of the present study. Nonetheless these findings indicate that males who perceive their mothers to be less nurturing are likely to experience more hyper-activating and deactivating attachment behaviour in adulthood leading to both anxious and avoidant attachment styles. This finding is in keeping with research by Chopik, Moors and Edelstein (2014) which found that maternal nurturance decreases attachment avoidance in their longitudinal study. They however did not consider gender differences.

The present study also found that females who perceive their fathers to be overprotective and not allowing a sense of independence and confidence to develop were both anxious and avoidant in adulthood, a finding that may have relevance to our understanding of the psychological wellbeing of women who have experienced paternal overprotection.

2.5.2 Personality traits

With regard to the moderating effects of personality traits, it was hypothesised that neuroticism would have the greatest interaction effect on insecure adult attachment. Findings in the present study supported this hypothesis for anxiously attached males and females but, interestingly, not for avoidant attachment in males and females.

As anxiously attached adults are more likely to employ hyper-activating strategies due to fear of abandonment it makes sense that medium and high levels of neuroticism will interact positively with this attachment style. High levels of neuroticism have also been linked to depression which is also associated with anxious adult attachment (Avagianou & Zafiropoulou, 2008). Agreeableness and conscientiousness were also found to have a moderating effect in females with anxious attachment styles in the present study.

Avoidant attachment in both males and females was moderated by agreeableness. The interaction effect of agreeableness in males was strongest at low levels, whilst a stronger effect was seen in medium and high levels with females. Medium levels of conscientiousness were also found to moderate the

relationship in females with avoidant attachment styles. Given that Shraver and Brennan (1992) found that avoidant attachment was predicted by low levels of agreeableness and high levels of neuroticism, the anomalous findings from the present study are perhaps somewhat surprising. One tentative explanation for these unexpected findings may be that females who experienced an overprotective father may not have had the opportunity to develop a sense of independence and may have a negative or poorly developed sense of self and low autonomy (Mikulincer, Gillath, & Shaver, 2002). According to Keltner, Gruenfeld, and Anderson (2003), dominant individuals in socially ranked relationships can feel safe because their subordinates offer signals of submission and deference. Facets of agreeableness and conscientiousness include trust, altruism, compliance and modesty as well as competence, dutifulness, achievement-striving and self-discipline. It is possible that these individual components of the traits of agreeableness and conscientiousness could be viewed as strategies to avoid conflict and to keep significant others close due to insecure attachment of both anxious and avoidant types. Gilbert (2007) also suggest that those with insecure attachments may make excessive attempts to 'get along' rather than to 'get ahead' to avoid rejection and placate those seen as having authority. These theories may go some way to explaining these novel and preliminary findings on the moderating effects of personality on adult attachment.

2.6 Limitations and future directions

There were a number of limitations in the present study. Firstly, the low proportion of males in the sample means that caution should be exercised when

interpreting the models of male anxious and avoidant attachment, as well as when drawing inferences regarding gender differences.

Secondly, the majority of the sample were undergraduate students (64% mean age = 20.3 years, SD 3.02). Chopik et al. (2014) explored the stability of attachment anxiety and avoidance over time in relation to parental bonding. They found a significant increase in both anxious and avoidant attachment styles reported between the ages of 18 and 23. Given the proportion of the sample that fall within this age bracket, caution is needed in interpreting results as they may be skewed due to this age bias.

The use of self-report measures is another limitation of the present study. Such measures, whilst informative are susceptible to response and social desirability biases (Leak & Parsons, 2001). The retrospective assessment of parental behaviour through the PBI is also a limitation as it is not possible to verify the validity of the reports. However, there is substantial evidence supporting the general validity of the PBI, including high test-retest reliability over time intervals as long as 10 years (Gittleman et al., 1998). Connected to this, another limitation was that negative affect was not controlled for. It has been found that negative feelings prior to completing an attachment self-report measure can have confounding effects (Wearden et al., 2008).

Given the exploratory nature of the current study, future research would be helpful in the area, taking into account the detailed limitations, in order to build on and extend the findings reported here. As insecure attachment has been

found to increase with age (Chopik et al., 2014), it would be useful to conduct further longitudinal studies to explore the effects of parenting on adult attachment over time at different age points. Therefore further studies are needed with representative non-clinical populations as well as with clinical populations to extend the empirical evidence base in this area. Moreover, exploring the factors studied here in the context of specific psychopathological presentations such as depression may also help to provide further evidence of the role of personality in adult attachment and psychopathology.

2.7 Clinical Implications

Overall, the findings of the present study support Bowlby's theory that parental behaviours play a crucial role in the development of personality and later attachment. This highlights a need to make parents aware of the attachment theory and its relevance to parenting and adds weight to the importance of parenting initiatives such as the Positive Parenting Programme and attachment focussed groups. The first few years of development are a sensitive period for personality development and if care is not perceived as loving, helpful and consistent, normal development may be thwarted. In particular, the findings highlight the importance of the relationship of paternal over protection on daughters. Previous studies have tended to focus on the maternal relationship, however novel findings from the present study indicate that fathers that are seen as overly controlling of their daughters may have more of a negative impact on development than previously thought. This finding also highlights the need for fathers to be supported to access information regarding parenting as often

mothers attend services alone where information concerning parenting may be offered. Given these findings, it may be useful for psychologists working in a variety of services to attend to the attachment process across the lifespan and how this may be influencing current clinical presentations. This may be especially important at the start of the journey to becoming a parent and indicates a possible need for greater knowledge on the importance of 'good enough' parenting of both mother's and father's in peri-natal services. By educating parents early on this may have a positive outcome on disrupted attachment difficulties seen in services across the life-span.

Knowing that these interactions occur in a normal population can help with understanding those with psychological presentations in adulthood. It may also help clinicians to identify what is within 'normal' limits of presentation and what may be clinically significant indicating more complex difficulties.

2.8 Conclusion

One of the most interesting outcomes of the seven explanatory models in the present study was the relationship between paternal overprotection on insecure adult attachment in women. Previous studies had not reported this finding, indicating a need for further research on gender differences to gain greater clarity of the clinical significance of this finding. As predicted neuroticism moderated insecure attachment, however the novel findings of the interactional effect of agreeableness and conscientiousness also warrant further investigation.

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Chapter III: Reflective Report

Reflections on personal and professional development whilst undertaking a doctoral thesis

Chapter Word Count: 3,494 (excluding tables, figures and references)

This paper has not been prepared for a specific journal.

3.1 Abstract

This paper consists of reflections made throughout the research process. It includes consideration of both personal and professional development that occurred during the process of developing and writing a large-scale research project and literature review. The reflections consider the changing relationship with the research process, as well as the development of adaptive coping strategies drawing upon Transactional Analysis (TA). Attachment is a core theme throughout this paper and reflections on my recent clinical placement, which ran parallel to the research project, are also included.

3.2 Introduction

This report details my reflections on the process of undertaking the large-scale research project and systematic literature review that make up the first two chapters of this thesis. Reflections centre around the question 'what led me to undertake research in the area of attachment and to conduct a literature review focussing on Autistic Spectrum Disorder (ASD)?' Consideration is also given to the personal and professional development that I have experienced in terms of understanding my own attachment style in relation to the research process and in my attempts to integrate a scientist-practitioner stance into my clinical work. This includes the placement and clinical work that I undertook parallel to conducting my thesis, as well as in my personal relationships.

It came as no surprise to me that I chose to undertake a thesis which focussed on attachment and ASD, as these are two areas that I am passionately interested in.

Through conducting a literature review and large scale research project in these fields I hoped to be able to gain a greater understanding of both topics , as well as to, hopefully, make a small contribution to the field of research into these subject areas.

3.2.1 Interest in attachment

My interest in attachment theory first developed prior to my clinical psychology training, whilst I was completing training in cognitive behaviour therapy (CBT; Beck, 1995). It is often remarked that CBT does not consider the impact of early experiences in anything more than a superficial way. This idea intrigued me and throughout that training, often to my detriment as my supervisors wanted me to focus more on learning the techniques of formulation and intervention, I found myself becoming increasingly fascinated by the relevance of some of my clients' early experiences to their current difficulties. I began to read more about Bowlby's attachment theory, which I had a vague recollection of learning about during my undergraduate studies. I then began to delve more into the realms of schema focused therapy (Young, Klosko & Weishaar, 2003), the CBT equivalent of an attachment-based approach and found that I was hooked.

I felt fortunate to have the opportunity to develop therapeutic relationships with my clients and privileged to be trusted enough for them to want to explore their early experiences with me (in cases where these were salient to the presentation), to help inform a formulation of their current difficulties and to plan an appropriate intervention. With hindsight, I appreciate how little

understanding I perhaps had and again I am thankful to my then clients for being as open and forgiving as they were as we gingerly explored this difficult territory together.

Working in a CBT service, I was often faced with fellow practitioner's arguments as to why a certain individual was not suitable for the service as their difficulties were 'relational'. It seemed clear to me that most presentations could be viewed as 'relational' in nature, whether that be with regard to one's own relationship with the self, other people or the world, or the relationship with the feared stimulus or resulting emotional response. This seemed to me to be the fundamental basis of people's difficulties and refusing intervention because their difficulties were 'relational' just did not make sense to me.

It was therefore with trepidation, anticipation and excitement that I embarked on clinical psychology training, hoping that I would finally learn about the 'relational' elements that I had previously been discouraged from approaching.

3.2.2 Interest in ASD

Whilst I had long since been interested in attachment, my interest in ASD was relatively new. Working in areas where I came into contact with people with ASD awakened a fascination and a desire to be able to increase my understanding of neurodevelopmental conditions, particularly when colleagues began discussing the overlap in attachment presentations with ASD symptomology. I started to want to understand more about what may contribute to this overlap. So, when I was required to deliver a presentation as part of the course requirement I chose

to present on the effects of neglect on brain development. This was a vast topic and with hindsight it was probably too broad for the allocated time. However, delving into the evidence base allowed me to begin to think more deeply about the effects of early experiences and whether they may or may not be linked to neurodevelopmental disorder such as ASD. It also led to me considering the contribution of early experiences on adult presentations and so, I had the beginnings of an idea for a literature review that would eventually evolve and change somewhat but that would still allow me to further my knowledge and understanding of ASD.

3.3 Me and my thesis – My relationship with the research process

3.3.1 Avoidance

It was a difficult realisation for me during the course of training to really begin to understand my own attachment style and this was highlighted throughout the research process. I found the process of choosing a particular research topic daunting and felt quite overwhelmed by the process. I of course knew that Clinical Psychology training required a research component, however had managed until this point to 'avoid' thinking about it or acknowledging that I would actually have to undertake a research project. I had entered into training with a primary focus of learning about different therapeutic models and working with different client groups with complex presentations. I of course wanted to be able to use the scientist-practitioner model, by informing practice with

evidence, but conducting research to provide that evidence was something that people far cleverer than I did.

However, it could not be denied forever and I had to begin somewhere. At this time it became clear to me that this was not something I was going to be able to do alone, yet my traditional way of managing the academic process was to be self-sufficient and not ask for support or assistance. So, despite this realisation and my growing anxiety I doggedly continued alone and felt myself becoming more overwhelmed. Somewhere in my academic career I had developed the assumption that, if I asked for help, I would be negatively judged or help would not be forthcoming. Because of this I was refusing to do anything differently, despite being aware of my avoidant nature.

Upon reflection I realised that I was engaged in a familiar pattern of trying to defend myself from the experience of becoming vulnerable and seeking help and as a consequence, this need was not being met. I had to believe that I could manage alone! When I now reflect back on this experience, I consider the model of development proposed by Stoltenberg and Delworth (1987). It would seem that I was in the first stage of self-awareness and was very much a beginner in the research process and in need of a high level of support. However, due to my underlying beliefs about myself and others and my penchant to be avoidant of help, I was desperate to prove that I could do this alone and was trying to work as though in the 'advanced stage'. This was understandably a difficult and overwhelming time for me.

Thankfully, I was fortunate that a member of the course team understood me well and paved the way for me to seek help. I had taken my first step within the research process towards learning that other people can be reliable and trusted and that it is okay to be a 'beginner' when starting a new process.

3.3.2 Anxiety

I needed to be sure that my research was in an area that I was interested in so I could remain motivated and focussed. Having finally developed a research question and decided that I would at least attempt to undertake research, I began to feel that writing my thesis might actually be possible. I therefore chose to select a placement that would run parallel to my research in the area of ASD, as I felt it would be helpful to work with a client group that was connected to an element of my thesis. Whilst working in this service, I was encouraged to think about and hold in mind the impact of attachment style on the presentations of the children I was assessing.

As I moved forward with the research process, developing my dataset and recruiting participants, I began to feel more detached from the process again. It seemed as though I was *going through the motions* and while I was 'doing' something, I was not really connected with the process. With this detachment came an increasing sense of anxiety, which manifested itself in needing reassurance that I would be supported through the research process.

At around this time there was a change in my supervision team and I found myself once again in a place where it was difficult for me to acknowledge that I needed

support and guidance and was highly anxious about whether it would be available to me. My avoidance was back and I was not allowing myself to engage in my research in any meaningful way, other than to collect data. As I look back I am struck by how much of an impact this change in supervision had on me and how quickly I reverted back to type and my old beliefs and ways of working due to feeling abandoned by my supervisor. I denied that it would effect me or my research in any way and did not attempt to find a replacement supervisor. Fortunately the course team stepped in and my new supervisor again showed a great understanding of my needs and has greatly supported me throughout the research process and challenged my avoidance.

Once my data was gathered I became task orientated and set about completing small elements that would, step by step, take me towards the final thesis. Whilst I felt I had a clearer idea of what I needed to do, my motivation was wavering and I felt I had moved into the second stage (motivation) of the developmental model as proposed by Stoltenberg and Delworth (1987). I fluctuated between feeling highly anxious that it would not be possible for me to complete everything in time and thinking that it would be okay and would get done and feeling relatively calm.

At around this time on placement, my supervisor and I had been discussing transactional analysis (TA; Berne, 1964) in the process of a young person I was working with. I realised that the questionnaire I had used to measure parental bonding (PBI) mapped well onto the theory of parent ego-states in TA and this prompted me to consider how I was relating to myself in terms of my research within the TA framework.

Early in the writing process, as I spent some time reflecting on this, I realised that many of my internal transactions were as a critical parent, telling myself 'you're not working hard enough' or 'you're not clever enough to be doing research' and that the focus of my project was too large for me to manage. I realised that this internal parent voice was not helping me to feel motivated and that often I would respond as an adaptive child and think 'what's the point?' and rebel against the critical parent by, for example, taking a long lunch break. I would also find myself in child mode, encouraging myself to do something fun rather than reading the growing mountain of journal articles that I had before me. Again, this was not a useful internal dialogue in terms of completing my thesis. If I responded in child mode I would not get any work done but mainly, I found that I responded with a critical parent voice and so the pattern continued.

On realising this, I tried to develop a more helpful internal transaction. I found that, when I was able to adopt a more 'nurturing' parent stance with myself, it increased my motivation and I was consequently more able to concentrate. Saying to myself, 'you can do this, of course it's difficult but just try your best' sometimes gave me the drive I needed to sit down and begin working and oftentimes, once I started I was able to continue. At other times I needed to have a more adult than parent conversation with myself. At these times I would tell myself 'just sit for an hour and then have a break' or 'ok, you need to do *x, y* and *z* today' and allow myself to begin with the smallest or easiest task. In this way, I was able to work and be productive as I had a sense of achievement which continued to drive me forward.

Realising the impact that my own internal dialogue was having on my motivation and on my emotional processes led me to reflect on the findings of my research and how, often, parents do not seem able to provide a good balance between nurturing and control, with unintended consequences for children that can persist into adulthood. Using the theory of TA helped me to gain a greater understanding of how individuals can sometimes provide this balance for themselves if they have the support to be able to learn and apply this information, which is certainly not an easy task, particularly if the voices from their past are overly critical.

A primary focus of my internal critical parent voice was that I had 'bitten off more than I could chew' in terms of the topics that I had chosen to cover and at times I would feel overwhelmed with the enormity of the task I had set myself. I spent some time reflecting on why I had chosen to cover such broad subject areas. Yes, my primary interest was in attachment which is a large theoretical and much researched area. 'Agreed' said my critical voice 'but surely you could have designed a study with a narrower focus?' When I spent some time reflecting on this I realised that it was likely to be linked to an issue of confidence and trust in my own ability. If I focused on broad, sweeping areas, I could be tentative in my conclusions and draw on possibilities from lots of different theoretical stances or sources. However, if I had chosen a narrow focussed area, I would have had to have been more certain of any conclusions I made and having certainty about my own ideas, ability and work is not something I am very good at. This in turn led me to think about my client work.

Throughout my training I had often received comments on how I hold a lot of complex information in mind and have the ability to work with said information in different ways. A supervisor once commented that this was not necessarily always a good thing. I had not understood the comment at the time, but I now wonder if they meant that by holding so much information and having such a broad focus, my formulations would always include many hypotheses, which may not be useful for the individual client in gaining a greater understanding of themselves or developing an intervention plan.

Fortunately, I had an opportunity to test out this theory during my most recent placement, as my supervisor encouraged me to try to understand the presentations of the children I was working with more fully. Rather than just stating that they had an ASD, I was to attempt to separate out what type of ASD and so rather than clumping, to become more focused and precise in decisions about assessment outcome. This was challenging for me and again raised a question of confidence and lack of belief in my knowledge and ability. However, with guidance, I began to identify 'atypical' ASD presentations and found that this gave a greater understanding of the individual presentations and needs to the families I was working with. I realised that sometimes having a narrow focus and not considering every clinical possibility is more helpful for the individual and was something that I was able to do in this context. Thinking about both of these positions will help me in future clinical work and any research that I may undertake, as I will be able to make clinical judgements or research decisions on

the basis of clinical need or research appropriateness, rather than decisions being dictated by my confidence and own proclivity for the broad.

3.3.3 Emerging Security

During the time I was synthesising my results for my empirical paper, I found myself reflecting more on the participants who had kindly completed my questionnaires. I had initially thought about recruiting a clinical sample with a diagnosis of borderline personality disorder. However, listening to my peers difficulties with recruitment and the lengthy process of transcription for qualitative studies I am grateful for the guidance I received to recruit a large non-clinical sample for my study. In addition, a non-clinical sample was more appropriate to answering my research question. I did however have concerns about gathering data in such a removed way from participants, particularly in the area of attachment. I worried that this process may lead participants to reflect on or remember difficult childhood experiences and was concerned about the impact this may have. However no-one contacted me for debriefing or support and I can only assume that the process did not cause distress to those who participated.

Despite my reservations at the start of the research process about my ability to carry out a meaningful research project, I now find myself in a place where I am contemplating the possibility of conducting a more qualitative piece of research in the future. This represents a dramatic shift for me, however I feel that I would like to build on my current findings, perhaps by exploring how people themselves

make sense of their early experiences and how these experiences influence the way they relate to others in adult relationships. I have reflected that this may indicate not only a growth in confidence in my research ability, but a more secure position in terms of being supported if I were to undertake another project.

As the final submission date approached though, I became fearful of what both failing and qualifying would mean! If I were to fail, the years I had spent working towards achieving a place on a clinical training course and the three years of training itself would have been wasted, having fallen at the last hurdle. On the other hand, if I qualified, people may actually expect me to be able to work as a Clinical Psychologist. Both were equally scary prospects to contemplate.

This led me to reflect on what it would mean to be an autonomous practitioner and moving towards stage three in the developmental model (Stoltenberg & Delworth, 1987). Throughout training and the research process I have valued supervision enormously, despite my earlier identified reluctance to seek help. The past year of my training has benefitted me enormously in challenging my avoidance and learning that, when I experience difficulties my anxieties and fears can be contained (Bion, 1962). My placement supervisor played a large part in helping me to learn that it is acceptable to experience 'human emotion' and supported me throughout this process. I wonder whether, without the opportunity to reflect on my own attachment style and help-seeking behaviours during training, I would have been able to tolerate some of the emotional difficulties I experienced at this time. This process has highlighted the importance of reflection in every area of clinical psychology, including during quantitative

research, which, one may be forgiven for thinking does not lend itself easily to reflection. I have also learned to value the balance of working autonomously as well as being supported, which I feel is a personal shift which will serve me well post-training.

3.4 Conclusion

My learning through the reflective process has been multifaceted. I have become more aware of my typical position when needing to ask for support from others and have learned to challenge this when appropriate. I am now mindful that I welcome support when it is freely offered but that, due to my underlying beliefs, I can find it hard to seek even when I know it is needed. I feel fortunate to have been able to identify more helpful ways of interacting with myself through my reflections on transactional analysis and have been encouraged to realise that I may have taken some small steps towards changing my natural avoidance and occupying a more secure base from which to explore the possibilities of future research.

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Appendices

Appendix 1. Author guidelines for publication in Personality and Individual Differences

PERSONALITY AND INDIVIDUAL DIFFERENCES

The Official Journal of the International Society for the Study of Individual Differences (ISSID)

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AUTHOR INFORMATION PACK

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1. Does the title reflect the content?		Yes	Yes	Yes	Yes	Yes	Yes
2. Are the authors credible?		Yes	Yes	Yes	Yes	Yes	Yes
3. Does the abstract summarise the key components?		Yes	Yes	Yes	Yes	Yes	Yes
4. Is the rationale for undertaking the research clearly outlined?		Yes	Yes	Yes	Yes	Yes	Yes
5. Is the literature review comprehensive and up to date?		Yes	Yes	Partial	Yes	Yes	Yes
6. Is the aim of the research clearly stated?		Yes	Yes	Yes	Yes	Yes	Yes
7. Are all ethical issues identified and addressed?		Yes	Yes	No	Yes	Partial	Partial
8. Is the methodology identified and justified?		Yes	Yes	Yes	Yes	Yes	Yes
Quantitative	**Qualitative**	**Quant.**	**Quant.**	**Quant.**	**Quant.**	**Quant.**	**Quant.**
9. Is the study design clearly identified, and is the rationale for choice of design evident?	9. Are the philosophical background and study design identified and the rationale for choice of design evident?	No	Partial	No	No	No	No
10. Is there an experimental hypothesis clearly stated? Are the key variables clearly defined?	10. Are the major concepts identified?	Yes	No	Yes	Yes	Yes	Yes
11. Is the population identified?	11. Is the context of the study outlined?	Yes	Yes	Yes	Yes	Yes	Yes
12. Is the sample adequately described and reflective of the population?	12. Is the selection of participants described and the sampling method identified?	Yes	Yes	Partial	Partial	Partial	Partial
13. Is the method of data collection valid and reliable?	13. Is the method of data collection auditable?	Yes	Partial	Partial	Yes	Yes	Partial
14. Is the method of data analysis valid and reliable?	14. Is the method of data analysis credible and confirmable?	Yes	Yes	Yes	Yes	Yes	Yes
15. Are the results presented in a way that is appropriate and clear?		Partial	Yes	Yes	Yes	Yes	Yes
16. Is the discussion comprehensive?		Yes	Yes	Partial	Yes	Yes	Yes
Quantitative	**Qualitative**	**Quant.**	**Quant.**	**Quant.**	**Quant.**	**Quant.**	**Quant.**
17. Are the results generalisable?	17. Are the results transferable?	Partial	Partial	No	Yes	Partial	Partial
18. Is the conclusion comprehensive?		Yes	Yes	Yes	Yes	Yes	Yes
Score		**32/36 89%**	**31/36 86%**	**26/36 72%**	**33/36 92%**	**31/36 86%**	**30/36 83%**

Quality Framework (based on Caldwell et al., 2011)		Murphy, D. (2003)	Ryden, E., & Bejerot, S. (2008)	Ryden, G., Ryden, E., & Hetta, J. (2008)	Tantam, D. (1988)	Wahlund, K., & Kristiansson, M. (2006)
1. Does the title reflect the content?		Yes	Yes	Yes	Yes	Yes
2. Are the authors credible?		Yes	Yes	Yes	Yes	Yes
3. Does the abstract summarise the key components?		Yes	Yes	Yes	Yes	Yes
4. Is the rationale for undertaking the research clearly outlined?		Yes	Partial	Yes	Partial	Yes
5. Is the literature review comprehensive and up to date?		Yes	Yes	Yes	Partial	Yes
6. Is the aim of the research clearly stated?		Yes	Yes	Yes	Partial	Yes
7. Are all ethical issues identified and addressed?		No	Yes	Yes	No	Yes
8. Is the methodology identified and justified?		Yes	Yes	Yes	Yes	Yes
Quantitative	**Qualitative**	**Quant.**	**Quant.**	**Quant.**	**Quant.**	**Quant.**
9. Is the study design clearly identified, and is the rationale for choice of design evident?	9. Are the philosophical background and study design identified and the rationale for choice of design evident?	Partial	Partial	No	No	Yes
10. Is there an experimental hypothesis clearly stated? Are the key variables clearly defined?	10. Are the major concepts identified?	Yes	No	No	No	Yes
11. Is the population identified?	11. Is the context of the study outlined?	Yes	Yes	Yes	Yes	Yes
12. Is the sample adequately described and reflective of the population?	12. Is the selection of participants described and the sampling method identified?	Yes	Partial	Partial	Partial	Partial
13. Is the method of data collection valid and reliable?	13. Is the method of data collection auditable?	Partial	Yes	Yes	Partial	Partial
14. Is the method of data analysis valid and reliable?	14. Is the method of data analysis credible and confirmable?	Yes	Yes	Yes	Partial	Partial
15. Are the results presented in a way that is appropriate and clear?		Yes	Yes	Yes	Partial	Yes
16. Is the discussion comprehensive?		Yes	Yes	Yes	Yes	Yes
Quantitative	**Qualitative**	**Quant.**	**Quant.**	**Quant.**	**Quant.**	**Quant.**
17. Are the results generalisable?	17. Are the results transferable?	No	No	No	No	No
18. Is the conclusion comprehensive?		Yes	Yes	Yes	Partial	Yes
Score		**30/36 83%**	**28/36 78%**	**29/36 80%**	**20/36 56%**	**31/36 86%**

Appendix 3. Ethics Review Feedback

REGISTRY RESEARCH UNIT

ETHICS REVIEW FEEDBACK FORM

(Review feedback should be completed within 10 working days)

Name of applicant: Caoime McIlhone.....

Faculty/School/Department: [Faculty of Health and Life Sciences]
Psychology .....

Research project title: "An exploration into autistic spectrum disorder, personality traits, parental bonding and adult attachment style."

Comments by the reviewer

1. Evaluation of the ethics of the proposal: I have no serious concerns regarding the ethics of this study and believe that the ethical issues involved have been considered	
2. Evaluation of the participant information sheet and consent form: These are appropriate for the study	
3. Recommendation: (Please indicate as appropriate and advise on any conditions. If there any conditions, the applicant will be required to resubmit his/her application and this will be sent to the same reviewer).	
X	Approved - no conditions attached
	Approved with minor conditions (no need to re-submit)
	Conditional upon the following – please use additional sheets if necessary (please re-submit application)
	Rejected for the following reason(s) – please use other side if necessary
	Not required

Name of reviewer: Anonymous .....

Date: 20/02/2014 .....

Caoime McIlhone

Appendix 4. Data Collection Material

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Telephone 024 7688 8328
Fax 024 7688 8702

Programme Director
Doctorate Course in Clinical Psychology
Dr Eve Knight
BSc Clin.Psy.D. CPsychol

THE UNIVERSITY OF WARWICK

Coventry University

Universities of Coventry and Warwick:
Doctorate in Clinical Psychology – Research Study

Participant Information Sheet

Relationships and Personality

I would like to invite you to participate in a research study regarding your experience of parenting whilst growing up, personality traits and current relationships. Please take the time to read the following information which will hopefully answer any questions you may have. Please feel free to contact me if you have any questions before deciding whether to take part.

Purpose of the study
The purpose of the study is to explore key relationships in childhood, adult hood and personality traits.

Why have I been chosen?
The study is looking at the experiences of a large group of adults. Anyone over the age of 18 years can participate in the study regardless of gender, race or disability. You may have been chosen as part of the research participation scheme in place at Coventry University.

Do I have to take part?
No. Taking part in the study is voluntary and it is your choice whether to take part. I will ask you to sign a consent form to say that you agree to take part, however please be aware that you are free to withdraw from the study up to six weeks after participating without giving a reason. You will be unable to withdraw your data from the study after this time as results may have been analysed.

What will happen if I do take part?
If you agree to take part in the study, you will be asked to complete the following:

- one questionnaire relating to your parenting experience whilst growing up
- one questionnaire relating to personality traits
- one questionnaire relating to your current relationships
- one questionnaire relating to demographic information
- one question asking about your memories of your parents and how this affects you in adulthood.

Completion of these tasks should take approximately 30 - 45 minutes

What are the possible disadvantages/risks?
There are no predicted disadvantages or risks to taking part in this research. However some people may find answering questions about their experience of parenting and/or current relationships brings up difficult feelings. If you feel upset for any reason it may be helpful to talk to someone you trust about your feelings. Alternatively there are organisations who offer support or relationship difficulties such as Relate who can be contacted on 0300 100 1234. Alternatively the Samaritans offer a 24 hour emotional support helpline: 08457 909090 if you feel in need of urgent support.

What are the possible benefits of taking part?
You may find it interesting to answer questions about your relationships and personality style. In addition, taking part in this study may help you to gain some insight into how Psychological research is conducted and experience what it is like to be a participant. This can be especially helpful if you are planning to conduct your own research in the future. If you are an undergraduate psychology student at Coventry University, you will also receive research participation credits for taking part in this study.

Will my information be kept confidential?
Yes. You will be asked to sign a consent form agreeing to participate in the study. You will also be asked to provide demographic information, which will be allocated a numerical code and stored separately from the research data. All data will be anonymised and kept in a locked filing cabinet which only the researcher will have the key for. Electronic data will be stored on a password protected device which only the researcher will have access to. All of your responses will remain confidential.

What happens to the results?
The results of the study will be used by the Primary Researcher to form part of a doctoral thesis in Clinical Psychology. The thesis will be made available in the libraries at Coventry and Warwick Universities upon completion. The results might also be published in a psychology journal. A copy of the results will be made available to all participants should they request them. You will not be personally identified in these reports and only statistical information about the data will be published.

Further information
You can discuss any queries, requests for additional information or further comments with Caoime McIlhone (Trainee Clinical Psychologist) on 024 76 887 806 or email: mcilhonec@uni.coventry.ac.uk.

Complaints procedure
If you are unhappy about anything to do with the research, please contact the Clinical Psychology Training Programme based at Coventry University on 024 76 887 806.

Caoime McIlhone - Trainee Clinical Psychologist
Universities of Coventry and Warwick

Thank you for taking the time to read this information.

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Priory Street, Coventry CV1 5FB
Telephone 024 7688 8378
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Programme Director
Doctorate Course in Clinical Psychology
Dr Eve Knight
BSc Clin.Psy.D. CPsychol

THE UNIVERSITY OF WARWICK

Coventry University

Consent Form

Researcher: Caoime McIlhone - Trainee Clinical Psychologist
Universities of Coventry & Warwick

Relationships and Personality

Participant ID: _____ Coventry University Student ID: _____

Please read the following statements carefully. If you agree to take part in this study, please indicate this by initialling each box.

		Please initial
1.	I confirm that I have read and understood the information sheet entitled "Participant Information Sheet" for the above project.	☐
2.	I confirm that I have had an opportunity to consider the information, ask questions and have had these answered to my satisfaction.	☐
3.	I understand that my participation is entirely voluntary and that I can withdraw at any time, without giving any reason, by contacting the principle researcher.	☐
4.	I understand that if I withdraw it will not effect my being a student / study at the Universities of Coventry or Warwick in any way.	☐
5.	I understand that statistical findings from this research may be written up for publication in journals and/or read by other professionals who work in a clinical setting.	☐
6.	**I agree to take part in the above research study.**	☐

Name of Participant: _____

Signature: _____

Date: _____

Name of Researcher: Caoime McIlhone

Signature: _____

Date: _____

Dean of Faculty of Health and Life Sciences
Professor Guy Daly Coventry University Priory Street Coventry CV1 5FB Tel 024 7679 5805

Head of Department of Psychology
Professor James Ironson BSc PhD University of Warwick Coventry CV4 7AL tel 024 7657 3009

www.coventry.ac.uk

Participant ID: _____

General details:

Please provide the following personal details which will be treated confidentially and used solely for the purpose of this study.

Gender: Male / Female (please delete as appropriate)

Age: _____ years

Ethnic origin: _____

Relationship Status: (Please Circle)

Single
In casual/open relationship
In committed relationship
Married

Length of time in current *or* most previous relationship: .....

Are you a student? Yes / No (please delete as appropriate)

What type of degree are you studying for?
(Please circle the most appropriate)

Arts / Business / Communication / Engineering / Law / Life Sciences / Medicine / Pharmacy / Music / Nursing / Humanities / Social Sciences / Science / Information Technology

If you are no longer studying, what was your primary area of study?
(Please circle the most appropriate)

Arts / Business / Communication / Engineering / Law / Life Sciences / Medicine / Pharmacy / Music / Nursing / Humanities / Social Sciences / Science / Information Technology / Other

Were you raised by: (please circle the most appropriate)

Both parents together
Just Mother
Just Fathe
A mixture of these
Other

Did your parents have the following: (Please circle the most appropriate)

Mother	***Father***
Physical Health Problems	Physical Health Problems
Mental Health Problems	Mental Health Problems
Both	Both
Neither	Neither

Thank you for completing this form.

Universities of Coventry & Warwick:
Doctorate in Clinical Psychology – Research Study

Participant ID:_____

Big Five Inventory – 44 (BFI - 44)

How I am in general

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1	2	3	4	5
Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly

I am someone who…

1. _____ Is talkative
2. _____ Tends to find fault with others
3. _____ Does a thorough job
4. _____ Is depressed, blue
5. _____ Is original, comes up with new ideas
6. _____ Is reserved
7. _____ Is helpful and unselfish with others
8. _____ Can be somewhat careless
9. _____ Is relaxed, handles stress well.
10. _____ Is curious about many different things
11. _____ Is full of energy
12. _____ Starts quarrels with others
13. _____ Is a reliable worker
14. _____ Can be tense
15. _____ Is ingenious, a deep thinker
16. _____ Generates a lot of enthusiasm
17. _____ Has a forgiving nature
18. _____ Tends to be disorganized
19. _____ Worries a lot
20. _____ Has an active imagination
21. _____ Tends to be quiet
22. _____ Is generally trusting
23. _____ Tends to be lazy
24. _____ Is emotionally stable, not easily upset
25. _____ Is inventive
26. _____ Has an assertive personality
27. _____ Can be cold and aloof
28. _____ Perseveres until the task is finished
29. _____ Can be moody
30. _____ Values artistic, aesthetic experiences
31. _____ Is sometimes shy, inhibited
32. _____ Is considerate and kind to almost everyone
33. _____ Does things efficiently
34. _____ Remains calm in tense situations
35. _____ Prefers work that is routine
36. _____ Is outgoing, sociable
37. _____ Is sometimes rude to others
38. _____ Makes plans and follows through with them
39. _____ Gets nervous easily
40. _____ Likes to reflect, play with ideas
41. _____ Has few artistic interests
42. _____ Likes to cooperate with others
43. _____ Is easily distracted
44. _____ Is sophisticated in art, music, or literature

Participant ID:_____

Experiences in Close Relationship Revised (ECR-R)

The following statements concern how you generally feel in close romantic relationships. Respond to each statement by indicating how much you agree or disagree with it. Write a number in the space provided, using the following rating scale. If you do not currently have a partner, but have had partners in the past, please answer the item based on your most recent significant romantic partner.

1 – Disagree Strongly
2 – Disagree
3 – Disagree Slightly
4 – Neutral/Mixed
5 – Agree Slightly
6 – Agree
7 – Agree Strongly

_____ 1. I prefer not to show my partner how I feel deep down

_____ 2. I'm afraid that I will lose my partner's love

_____ 3. I feel comfortable sharing my private thoughts and feelings with my partner

_____ 4. I often worry that my partner will not want to stay with me

_____ 5. I find it difficult to allow myself to depend on romantic partners

_____ 6. I often worry that my partner doesn't really love me

_____ 7. I am very comfortable being close to romantic partners

_____ 8. I worry that romantic partners won't care about me as much as I care about them.

_____ 9. I don't feel comfortable opening up to romantic partners

_____ 10. I often wish that my partner's feelings for me were as strong as my feelings for him or her

_____ 11. I prefer not to be too close to romantic partners

_____ 12. I worry a lot about my romantic relationships

_____ 13. I get uncomfortable when a romantic partner wants to be very close

_____ 14. When my partner is out of sight, I worry that he or she might become interested in someone else

Participant ID:_____

_____ 15. I find it relatively easy to get close to my partner

_____ 16. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me

_____ 17. It's not difficult for me to get close to my partner

_____ 18. I rarely worry about my partner leaving me

_____ 19. I usually discuss my problems and concerns with my partner

_____ 20. My romantic partner makes me doubt myself

_____ 21. It helps to turn to my romantic partner in times of need

_____ 22. I do not often worry about being abandoned

_____ 23. I tell my partner just about everything

_____ 24. I find that my partner(s) don't want to get as close as I would like

_____ 25. I talk things over with my partner

_____ 26. Sometimes romantic partners change their feelings about me for no apparent reason

_____ 27. I am nervous when partners get too close to me

_____ 28. My desire to be very close sometimes scares people away

_____ 29. I feel comfortable depending on romantic partners

_____ 30. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am

_____ 31. I find it easy to depend on romantic partners

_____ 32. It makes me mad that I don't get the affection and support I need from my partner

_____ 33. It's easy for me to be affectionate with my partner

_____ 34. I worry that I won't measure up to other people

_____ 35. My partner really understands me and my needs

_____ 36. My partner only seems to notice me when I get angry

Participant ID:_____

Parental Bonding Instrument (PBI)

MOTHER FORM

This questionnaire lists various attitudes and behaviours of parents. As you remember your MOTHER in your first 16 years. Please write a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1 Very Unlike	2 Moderately Unlike	3 Moderately Like	4 Very Like

1. Spoke to me in a warm and friendly voice _____
2. Did not help me as much as I needed _____
3. Let me do those things I liked doing _____
4. Seemed emotionally cold to me _____
5. Appeared to understand my problems and worries _____
6. Was affectionate to me _____
7. Liked me to make my own decisions _____
8. Did not want me to grow up _____
9. Tried to control everything I did _____
10. Invaded my privacy _____
11. Enjoyed talking things over with me _____
12. Frequently smiled at me _____
13. Tended to baby me _____
14. Did not seem to understand what I needed or wanted _____
15. Let me decide things for myself _____
16. Made me feel I wasn't wanted _____
17. Could make me feel better when I was upset _____
18. Did not talk with me very much _____
19. Tried to make me feel dependent of her/him _____
20. Felt I could not look after myself unless she/he was around _____
21. Gave me as much freedom as I wanted _____
22. Let me go out as often as I wanted _____
23. Was overprotective of me _____
24. Did not praise me _____
25. 25. Let me dress in any way I pleased _____

Participant ID:_____

FATHER FORM

This questionnaire lists various attitudes and behaviours of parents. As you remember your FATHER in your first 16 years. Please write a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1 Very Unlike	2 Moderately Unlike	3 Moderately Like	4 Very Like

1. Spoke to me in a warm and friendly voice _____
2. Did not help me as much as I needed _____
3. Let me do those things I liked doing _____
4. Seemed emotionally cold to me _____
5. Appeared to understand my problems and worries _____
6. Was affectionate to me _____
7. Liked me to make my own decisions _____
8. Did not want me to grow up _____
9. Tried to control everything I did _____
10. Invaded my privacy _____
11. Enjoyed talking things over with me _____
12. Frequently smiled at me _____
13. Tended to baby me _____
14. Did not seem to understand what I needed or wanted _____
15. Let me decide things for myself _____
16. Made me feel I wasn't wanted _____
17. Could make me feel better when I was upset _____
18. Did not talk with me very much _____
19. Tried to make me feel dependent of her/him _____
20. Felt I could not look after myself unless she/he was around _____
21. Gave me as much freedom as I wanted _____
22. Let me go out as often as I wanted _____
23. Was overprotective of me _____
24. Did not praise me _____
25. Let me dress in any way I pleased _____

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Universities of Coventry & Warwick: Doctorate in Clinical Psychology – Research Study

Debrief Sheet - Relationships and Personality

Thank You

Thank you for your participation in this study. You may keep the participant information and debriefing sheet for your reference. Please also make a note of your Participant ID number for your reference.

The information you have provided for this study will remain confidential. Should you wish to withdrawn your data from the study please email mcilhonc@coventry.ac.uk with your participant ID number. You do not need to give any reason to remove your data and any research credits you may have earned through participation will be retained. Please be aware that you are free to withdraw from the study up to six weeks after participating without giving a reason. You will be unable to withdraw your data from the study after this time as results may have been analysed.

It is not anticipated that taking part in this study will cause any distress, however it may help you to speak to someone you can trust with regards to personal or relationship difficulties. If you are a student at Coventry University the student counselling service offers support and can be contacted at counsel.ss@coventry.ac.uk. Alternatively, the Samaritans offer a 24 hour emotional support helpline: 08457 909090 or your General Practitioner (GP) will be able to signpost you to the most relevant services in your area.

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Head of Department of Psychology
Professor James Tresilian BSc PhD University of Warwick Coventry CV4 7AL Tel 024 7657 3009

Debrief of the Study

The main purpose of the study is to explore the links between perceptions of early parenting experience, developed personality traits and romantic relationships in adulthood. It is hoped that this information may be useful in furthering our understanding of how experiences of early parenting styles may impact on later relationships and the development of personality traits. It is hoped that the results will be useful within clinical work for people with relationship difficulties.

One of the key elements of the developmental approach of attachment is the proposition that early experiences with primary care-givers influence the development of the self and future close relationships. The perceptions we have of our early experiences of care can influence our ability to develop a secure sense of self as a person who is able to love and be loved. The development of certain personality traits are also thought to be linked to early experiences of care, with those developing less secure attachments in childhood experiencing more negative personality traits, such as neuroticism.

If you are interested in reading more about how our past experiences may influence the development of personality or the way we interact with others as adults please refer to John Bowlby's book 'A Secure Base' or the following paper: Reti, I.M., Samuels, J.F., Eaton, W.W., Bienvenu III, O.J., Costa Jr, P.T., & Nastadt, G. (2002). Influences of parenting on normal personality traits. *Psychiatry Research 111(1),* 55-64.

If you have any feedback on the questionnaires or would like further information about this study please contact Caoime McIlhone on 02476 887 806 or mcilhonec@uni.coventry.ac.uk.

Caoime McIlhone
Trainee Clinical Psychologist
Clinical Psychology Department
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CV5 5FB

Thank you for taking part in this study. Your time is greatly appreciated.

Appendix 5. Table showing model fit summary for each attachment model.

Model	**Multiple Correlation (R)**	**R-sq**	***F***	**Degrees of Freedom**	**Significance level (*p*)**
Male Anxious Attachment and Neuroticism	.566	.32 (32%)	6.89	3,55	.0005
Male Avoidant Attachment and Agreeableness	.565	.32 (32%)	13.88	3,55	.0000
Female Anxious Attachment and Agreeableness	.480	.23 (23%)	16.58	3,151	.0000
Female Anxious Attachment and Conscientiousness	.431	.19 (19%)	12.32	3,151	.0000
Female Anxious Attachment and Neuroticism	.572	.33 (33%)	40.03	3,151	.0000
Female Avoidant Attachment and Agreeableness	.384	.15 (15%)	8.02	3,151	.0001
Female Avoidant Attachment and Conscientiousness	.401	.16 (16%)	10.79	3,151	.0000